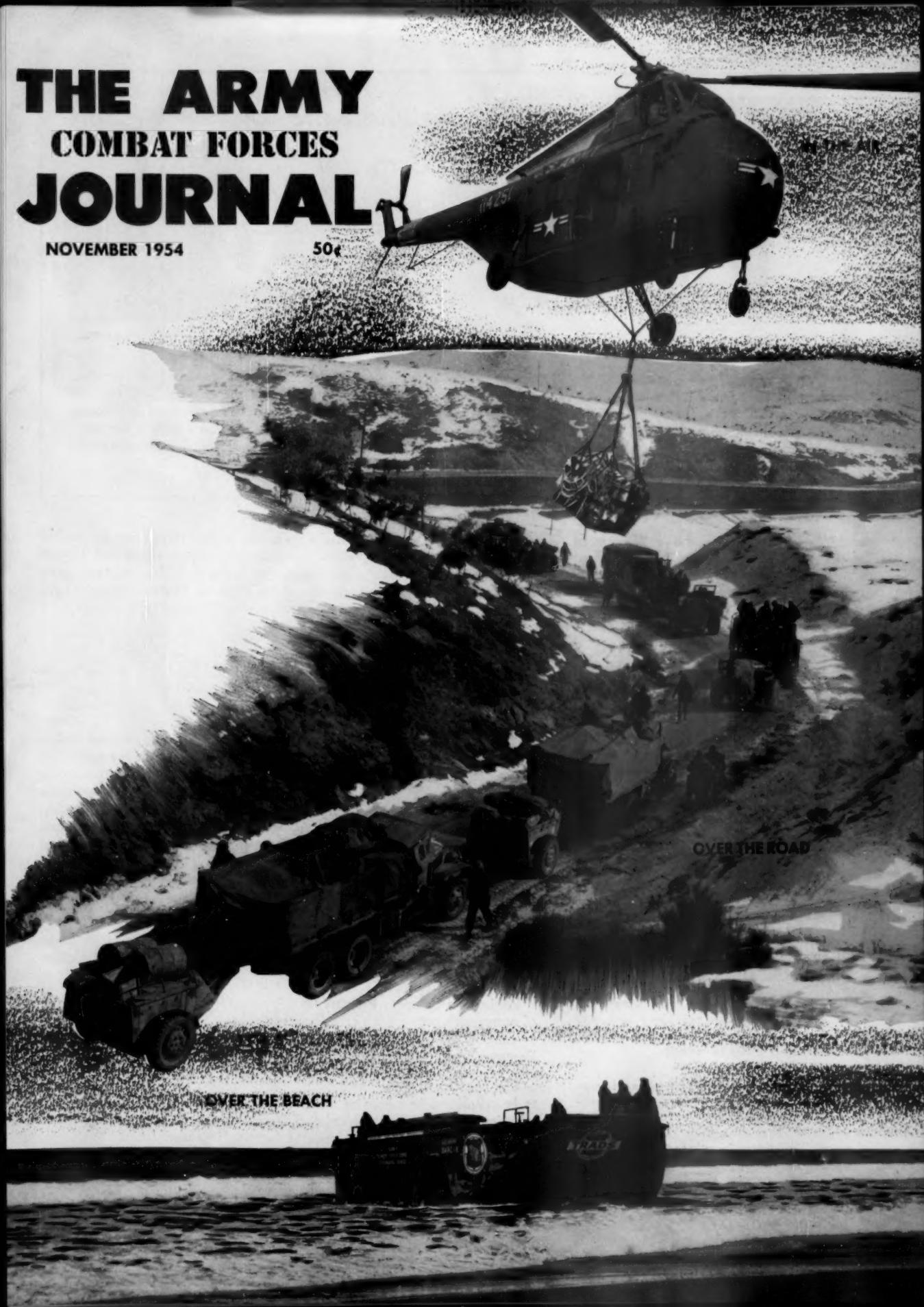


THE ARMY COMBAT FORCES JOURNAL

NOVEMBER 1954

50¢





LT. GEN. W. L. WEIBLE

Never underestimate the power of a Sergeant



SFC RAYMOND R. BOWLES

HERE'S WHY, Sergeant Bowles

Never let it again be said that the voice of a sergeant cannot be heard in the Pentagon! When Lieutenant General W. L. Weible, Deputy Chief of Staff for Operations and Administration, read in our September issue the fourteen suggestions for improvements in Army procedures made by Sergeant First Class Raymond R. Bowles,

who is on duty in Austria, he circulated the questions among interested sections of the General Staff and sent the answers to *THE JOURNAL*. The questions and answers appear below. We can only add that if there is any better evidence than this of the fundamental soundness of the U.S. Army we don't know what it could be.

Why don't they make a second award of the American Defense Ribbon for all Regulars who were serving at the outbreak of the Korean War?

Why don't they issue or award an Honorable Service Ribbon? There could be an award for each 10, 20, and 30 years of honorable service. Make the thing hard to get and really something to work for.

Why don't they award a Marksman-ship Ribbon instead of the Marksman-ship Badges? This would encourage more people to wear such awards. Might even make for some better scores on the range.

Why don't they issue a Company Supply Records cabinet? This would be a good use for old trunk lockers.

Why don't they have a company stock card instead of the company property book form? It would be faster to post, neater, and easy to handle.

Why don't they have a general supply form instead of the issue slips, turn-in slips, ammo requests, and so forth? The Air Force shipping document and requisition form is a good example of what I mean.

Service medals have traditionally been used to give recognition for specific periods of service in emergencies. Revival of a previous medal with new or modified awarding criteria would violate this tradition. This revival was given consideration at the time of adoption of the National Defense Service Medal which gives tangible recognition for service since 27 June 1950.

The Good Conduct Medal presently provides for tangible public recognition of exemplary behavior, efficiency and fidelity of enlisted men for extended periods of service. A medal award based solely on honorable service would damage the prestige and incentive value of the Good Conduct Medal.

The Department of the Army has traditionally used decorations and medals and their respective service ribbons for providing recognition for individual valor, accomplishment, achievement, and service under emergency conditions. It has traditionally recognized individual skills by badges, including those indicating proficiency in arms. The use of a ribbon in lieu of a marksmanship badge would result in lessening the prestige of existing decorations and medals. It would certainly cause confusion in the minds of the public and would tend to further expand the popular misconception that the number of ribbons rather than the relative prestige of individual decorations or medals is the important thing. This suggestion has previously been considered and rejected.

The desk, field, fiber, company, which in authorized military units is designed and issued specifically for the storage of records required to be maintained by a unit.

Posting to a Company Property Book is normally infrequent. The handling of numerous separate stock cards by a company or battery in the field would be difficult in comparison to the ease and safety with which the Company Property Book in its present form may be handled.

The particular supply forms mentioned are only a few which would have to be considered in design of a general supply form. Because of the wide variation in information required at different echelons of supply, any general supply form would contain numerous columns. This would result in a large, cumbersome, impractical form. The Air Force unit supply system is practically identical with the Army unit supply system and utilizes the turn-in and issue slips as separate and distinct documents.

(Continued on page 27)

Artillery Spotting



Communications



Wire Laying



Supply Drops



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Photo Reconnaissance



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NOVEMBER 1954

THE ARMY COMBAT FORCES JOURNAL

Vol. 5, No. 4

November 1954

EDITORIAL POLICY

The Army Combat Forces Journal is a professional military magazine devoted to the dissemination of information and ideas relating to the military art and science representing the interests of the entire Army.

The Journal strives to

- ¶ Advance man's knowledge of warfare in the fields of strategy, tactics, logistics, operations, administration, weapons and weapons systems.
- ¶ Advance man's knowledge and understanding of the soldier as an individual, as a member of a trained unit, and as a member of the whole Army; emphasizing leadership, esprit, loyalty, and a high sense of duty.
- ¶ Disseminate knowledge of military history, especially articles that have application to current problems or foster tradition and create esprit.
- ¶ Explain the important and vital role of the United States Army in the Nation's defense and show that the Army is alert to the challenges of new weapons, machines, and methods.
- ¶ Advance the status of the soldier's profession.

(Adopted by the Executive Council of the Association of the U. S. Army, 21 June 1954)

Association's Journal

There have been a number of changes in the composition of the Executive Council of the Association in recent months because members have left Washington for distant stations or have retired from the Army and removed from the city. While it is not necessary that an officer or member of the Council be on duty in Washington or nearby, they usually resign when they leave the city in order that there will be a quorum present at all meetings. As was mentioned once before in this column, the Council has directed that election of members of the Council by members of the Association be resumed next year. This means that early next spring the JOURNAL will publish a ballot for the election of officers to fill the seven vacancies that will occur in June 1955. We'll have more to say about who can vote and how at a later date.

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TRENDS IN TRANSPORTATION

Men in Search of Mobility	11
Ship to Shore	Harry A. Jacobs 12
Assault Troop Submarine	Comdr. G. W. Kittredge 17
Exercise Lift	Maj. James S. Douglas 20
To Pool or Not to Pool	Capt. Avery E. Kolb 24

MEN AND METHODS

Here's Why, Sergeant Bowles	Cover 2
It Seemed Like a Good Idea	Col. Robert F. Hallock 30
World-Wide Unit Rotation	37

TACTICS AND TECHNIQUES

Huk Hunting	Lt. Col. Luis A. Villa-Real 32
War Without Men	Col. George S. Reinhardt 40

DEPARTMENTS

The Month's Pictures .. Cover 4	Cerebrations	44
The Month's Mail	The Word from the Schools ..	46
Front and Center	Iron in the Fire	48
The Month's Reading .. 28	The Month's Books	49

The Army Combat Forces Journal is published monthly by the Association of the United States Army. Publication date: 25th of preceding month. Publication, Editorial and Executive Offices: 1529 Eighteenth Street, N.W., Washington 6, D. C. Copyright, 1954, by Association of the United States Army. Entered as Second Class Matter at Washington, D. C., additional entry at Richmond, Va., under the Act of March 3, 1879. Articles appearing in The Army Combat Forces Journal do not necessarily reflect the opinions of the Department of the Army, the officers and members of the Executive Council of the Association of the U. S. Army, or the editors.

Rates. One year \$5.00; two years \$9.00 when paid in advance; three years \$12.00 when paid in advance. Subscriptions for libraries, civilian groups or activities, and others not eligible for membership in the Association of the U. S. Army \$5.00 per year. Foreign subscriptions \$6.00 payable in advance. For other rates write Circulation Manager, 1529 18th Street, N.W., Washington 6, D. C.

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THE MONTH'S MAIL

50th Anniversary Issue

• The October issue of *THE ARMY COMBAT FORCES JOURNAL* has just come to my attention. I noted with pleasure that this handsome issue marked the *JOURNAL*'s first half century. It certainly is an excellent tribute to the fifty years of service which the *JOURNAL* has rendered to the United States Army.

The *JOURNAL*, adhering to the highest professional standards, has fully accomplished the great objectives which it has set for itself. In so doing, it has also made a record in military journalism of which the Association of the United States Army can be justly proud. I wish to congratulate you and the members of the Association who are adding to the traditions which the *JOURNAL* has established throughout its distinguished career. As you celebrate the *JOURNAL*'s fiftieth anniversary, may I express the hope that it will continue to thrive and enjoy outstanding success.

ROBERT T. STEVENS

Secretary of the Army
Washington, D. C.

... a most interesting issue . . .
Best wishes to the *JOURNAL* on its birthday and may it have many more.

J. LAWTON COLLINS
Gen., U.S. Army

U. S. Representative
NATO
Washington, D. C.

Your Fiftieth Anniversary issue was a fine reminiscence. It should inspire all of

us in the Army to preserve and pass on to those who will follow us the unquestioned integrity and faithfulness to duty that was the hallmark of those who preceded us.

I am confident that in the next fifty years the contributions to the Army of *THE ARMY COMBAT FORCES JOURNAL* will exceed the many valuable services *The Infantry Journal* and *The Field Artillery Journal* performed in the past.

M. B. RIDGWAY
General, U.S. Army

The Chief of Staff
Washington, D. C.

... certainly excellent . . . you have every reason to be proud of it. Colonel Dupuy's article is truly a fascinating story of the Army and a very fitting contribution . . .

F. L. PARKS
Lt. Gen., U.S. Army

Hq. Second Army
Fort George G. Meade, Md.

... The *JOURNAL* has done a fine thing to have [Colonel Dupuy] write up this half century of progress in the service. . . .

DANIEL NOCE
Lt. Gen., U.S. Army

The Inspector General
Washington, D. C.

... Having served 37 of these past 50 years, I say that the article presents not only the facts but the human feeling—both the history and the sentiment. It is a fine background for understanding the many actions which we are now taking to bring

back the Army to which we "old-timers" have been attached through our hearts and our minds and not because of the effects upon our pocketbooks. . . .

WALTER L. WEIBLE
Lt. Gen., U.S. Army
Dep. Chief of Staff for Operations
& Administration
Washington, D. C.

I read . . . Colonel Dupuy's article with great interest. [It] is very well written and accurately captures the spirit of the Army's past 50 years. . . . a notable achievement of which the author and all who assisted in its publication may well be proud.

A. R. BOLLING
Lt. Gen., U.S. Army
Hq. Third Army
Fort McPherson, Ga.

... A quick look at the illustrations has made me eager . . . to read . . . Colonel Dupuy's article. . . .

W. B. PALMER
Lt. Gen., U.S. Army
Dep. Chief of Staff for Logistics
Washington, D. C.

... I could delay no longer in telling you what a wonderful task you are doing.

Someone recently tried to put a price tag on the term "intangible," as applied to the military service. Our great Chief of Staff, General Ridgway, with a typical burst of fervor, said, "Why the intangible is the most tangible thing we deal with in our service!" The Dupuy article has the

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flavor of such depth of feeling and it is so needed today . . .

W. G. WYMAN
Lt. Gen., U.S. Army

Hq. Sixth Army
Presidio of San Francisco, Calif.

. . . We here at Fourth Army congratulate you on this occasion. . . .

I. D. WHITE
Lt. Gen., U.S. Army

Hq. Fourth Army
Fort Sam Houston, Tex.

Your anniversary issue is a tribute to your imagination and taste, your artist's skill and your printer's mastery of his craft. It is, I think, a superb example of magazine production.

I can't be quite as glowing in my praise of Colonel Dupuy's article. The early and middle parts of it are fine—a factual, moving social history, devoid, praise be! of sociological jargon or pretense of scientific analysis. But the latter part fails to bring off the bright promise of the earlier parts and becomes a lament that the "new" army isn't as good as the army in which Colonel Dupuy grew up. This, I think, is subject to argument, but not here. But may I say that if that is true, whose fault is it but Colonel Dupuy's generation? They were in the saddle when this "new" army was born in the 1940s.

It would have been much finer if Colonel Dupuy had built his ending on something more durable than a gripe. The ending of the introductory article had the right ring and is much more meaningful today. I refer to the sentences that read: The Army's "problem today is not one of branch survival and recognition, but of Army survival and recognition. It is time for a closing of ranks."

Because of my present position please don't use my name.

NOT-SO-OLD SOLDIER

The staff of the JOURNAL is grateful for the wonderful reception accorded the October issue. We regret that lack of space doesn't let us print all of the fine letters we have received. For those who have asked, the artist was Gil Walker whose work appears here quite regularly. We have a limited number of reprints of the article available at a cost of 25¢ each for those who may want extra copies.

Soldiering, a Way of Life

• Colonel Yeuell's article, "Soldiering is a Way of Life" [September], is to my mind one of the most concise, clear, and sensible articles that I have ever read on that subject. I, for one, hope that the topside reads and thinks about what Colonel Yeuell wrote . . .

MRS. R. E. BELL

Hq V Corps
APO 79, c/o Postmaster
New York, N. Y.

NOVEMBER 1954

• Colonel Yeuell's article is of classic brilliance and superb timeliness. It can well serve as the foundation of facts upon which to base improvements and changes to make our Army again an elite organization, where opportunity to command is a top desire of every good officer, and where to belong means being a member of a proud and honorable brotherhood of men who are in the Army because they think it is the finest and most satisfying job in the world.

CAPT. MALCOLM K. RHINE

Hq Seventh Army
APO 46, c/o Postmaster
New York, N. Y.

Praise for "The Pros"

• "The Pros," by Colonel A. T. McAnsh [August], is the finest, most inspiring thing of its kind to come across my desk. I feel that it could be used in work with the re-enlistment problem.

Let me take this opportunity to compliment you on your fine magazine. It is a real delight to a librarian to find such emphasis on good reading and such apparent appreciation for reading's worth.

(MRS.) FRANCES L. DUFRAINE

Base Librarian
Great Falls Air Force Base
Great Falls, Mont.

"Why Didn't They Shoot More?"

• This article is written as a rebuttal to some features of "Why Didn't They Shoot

More?" [September].

Friendly ambush patrols frequently used overhead fires in lieu of rifle fire and "this overdependence reached ridiculous extremes." There is absolutely *nothing* ridiculous about using a plotted and pre-fired concentration on an unsuspecting enemy patrol. A mortar (bursting radius 15 yards) or artillery (bursting radius 25 yards) shell or VT artillery shell can kill far more effectively than caliber .30 fired in total darkness. In addition, the disorganization and panic caused by overhead fire, if properly coupled with flares, will provide the friendly patrol with plenty of targets, whereas opening up with small arms alone will cause the enemy to melt into the ground and/or withdraw with minor casualties. In the daytime, this is less valid, but daytime patrolling is almost a thing of the past.

"Bunkeritis." Here is a malady forced upon us by the stalemate "police action." American troops frequently occupied positions as tiny as 100 by 200 yards. Not only did the Chinese know every position, but they could saturate the entire area with barrages sufficient to kill any living thing out in the open. An example was an estimated 10,000 rounds dropped on a position that had approximately the above dimensions. Only when the metal umbrella folded could the rifleman leave his bunker to fight from his firing position.

Bunkers are unthinkable when a situation exists in which pin-point shelling is almost impossible. But they become man-

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datory when a static position is dictated. Had our commanders used foxhole rather than bunker-type defenses, they would have trebled their casualties and seriously jeopardized their defensive positions.

Rarely did the Chinese inflict more damage on us than we upon them despite superiority of enemy numbers. Rarely did our men lose positions unless decimated to such an extent that no other course lay open. And rare indeed was the occasion that any position so bloodily relinquished was not retaken. Chinese dead are a mute but conclusive testimonial to these facts.

L.T. PETER L. ROMANOW

Fort Dix, N.J.

"It's SOP!"

• Here, here now, Lt. O'Brien ["It's SOP!" August], are you trying to upset the applecart? Disorganize our fine military machine? Read and use Department of the Army Field Manuals, Technical Manuals, and all other pertinent publications and regulations? What would become of those neatly aligned rows of manuals and publications in our Staff and COs' offices? Why, they would become soiled and disarranged. Who's running this Army anyway, lieutenant? You are an iconoclast and suspect.

Compliments, O'Brien, you've performed an admirable service for your fellow junior officers. Why must there be ground rules, SOPs, SOPs for the ground rules, and just plain ground rules for the ground rules? Are these SOPs and ground rules really disguised excuses for lack of knowledge of perfectly reasonable rules and regulations? What happens to an officer when he departs the junior ranks and steps into the commanding ranks? Is it an official prerogative that any commander can summarily scrap

the book and make his own rules? Why, when they step into the commanding ranks do they not find it necessary to open the book?

Did you hear about the CO who insisted that everyone would exchange salutes even when driving a vehicle? How many officers above first lieutenant have taken time of late to read FM 22-5 and the military courtesy portion of FM 21-13?

L.T. O'SIGNAL

Leadership and Training

• An editorial in an *Infantry Journal* of 1942 states in timeless words the needs of the combat soldier: "The fighting man's confidence must rest on three things—his leader, his weapon and himself. His leader can often do little to guide him once battle is on. His weapon cannot make him a smaller target to the aimed or unaimed fire of the enemy. Only the man by himself, through knowledge of what a trained fighter must do to live and fight, can handle himself as he must if battles are to be won."

Thus we reach the basic ingredient, as it has always been in the military service: leadership that is trained, dynamic, confident, mentally, morally, and physically fit to overcome the many handicaps which Nature and man place in the path of the leader.

To consider manpower first, we must realize that the drafted man starts out in the service on an entirely different mental basis from that of the volunteer, or the member of the Reserve Corps or National Guard. The draftee . . . has little or no interest in the strange way of life into which he has been thrown. He has no liking for the regimentation and the menial work which to a greater or lesser degree will be his lot. Also, at this time there is not the compulsion or the patriotic desire to serve which is present when the nation is at war.

What is the best approach? There is no simple answer. The leader charged with training must put to use every bit of skill and knowledge that he possesses. By his own example, by stimulation of pride, almost all men can be reached. By this I imply no relaxing of standards. I have found that the best way is to demand performance and to act as if it were impossible for my men to fail to deliver it. It works well. Every item in the leader's psychological armament must be used, so that the fighting man will live, fight, and above all win battles when called upon to do so . . .

In short, I submit that the desirable toughness of the troops is still a function of command—through good training by qualified leaders. An orchid to the officers and men of the Army's organization and training division who are intent on leading the service back to ways of toughness.

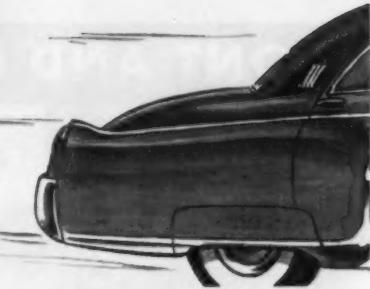
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Q *What is the United Services Automobile Association?*

A It is an organization formed in San Antonio in 1922 to serve Army officers with low-cost insurance. The USAA, in nearly a third of a century, has grown to cover ALL BRANCHES of the Armed Forces and is now serving more than 200,000 policy-holders with insurance at cost.

Q *Who operates the USAA?*

A The USAA is a non-profit organization of retired and active duty Commissioned and Warrant Officers who pool their insurance funds for their mutual protection.

Q *Where does USAA operate?*

A Almost anywhere our Armed Forces are found—in the United States, its possessions and territories; in Canada, Cuba, the Canal Zone; in Japan, the Philippines, certain U. S. Military Bases in the Pacific, and in Western Continental Europe.

Q *How are these savings returned to USAA policyholders?*

A In the form of dividends, at the end of the policy year. In 1953, for instance, some 180,000 Officers insured by USAA shared in more than \$4,300,000 dividends.

Q *How much might I expect to save on my policy?*

A Last year, USAA policy-holders (other than Texas) received a 20% initial discount from manual rates and a 30% dividend at the end of policy year. A policy based in Texas received a 44% dividend on manual rates, resulting in the same net insurance cost. USAA has always returned substantial savings during all of its 32 years.

Q *How can USAA afford to pay such liberal dividends?*

A USAA confines its insurance benefits solely to Officers and Warrant Officers in the Armed Forces—a "preferred risk" group, so costs are reduced. With all selling completed by mail, we have no agents commissions to pay, or branch office overhead to meet.

Q *How about coverage outside the United States?*

A In areas of the world where USAA operates, you enjoy exactly the same insurance protection you get at home.

Q *Are claims paid quickly—especially abroad?*

A Rapid adjustments are assured wherever you are protected by a USAA policy. USAA claims facilities have been established in overseas areas to provide fast service.

Q *Who is eligible for a USAA policy?*

A Active and retired Officers, Cadets and Warrant Officers of the Army, Air Force, Navy, Marine Corps, Coast Guard, Public Health Service, Coast and Geodetic Survey, Foreign Service Officers of the Department of State; Reserve and National Guard Officers when ordered to extended active Federal duty; the widows of such Officers and Warrant Officers so long as they remain unmarried.

Q *What about Officers released from active duty?*

A Yes, they're eligible, once they've established membership in the USAA while on extended active Federal duty—so long as they maintain their reserve commission.

Q *Just how big is USAA?*

A USAA is the biggest in the field of Armed Services insurance with over 200,000 officers enjoying insurance at cost through membership in USAA at this time. During its 32 years of operations, USAA has paid over 60 million dollars to and for its members as savings on their policies or for their protection against loss. Over 250,000 policies are now in force. USAA is the sixth largest reciprocal insurance association in the United States.

Q *Who owns USAA?*

A Every member of USAA has a money interest in the business in direct proportion to his policy premiums. No one makes any profit from USAA, except the member policy-holders themselves. USAA is not connected or affiliated with any other insurance company.

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Send information on Insurance covering household effects. Send information on automobile insurance based on following data:

Car Year	Make	Model	Body Type	Pass. Cap.	Serial Number	Motor No.	No. Cyls.
Factory Price	Cost	Purchase Date	New/Used	Current Year	Car License State	Name in which car legally registered	

Is the automobile customarily used in the occupational duties of any person except in going to and from the principal place of occupation? _____

Is the automobile customarily used in driving to or from work? _____

If the automobile is customarily used in driving to or from work, how many road miles is the car driven one way? _____

How many operators under age 25? _____

Age of each: _____

Are any of the operators under 25 owners or principal operators of the automobile? _____

Name, Rank &
Serial Number _____

Military Address _____

If car not at above address, give location of car _____

If any of the operators under 25 are owners, or principal operators, of the automobile, _____

(a) are all such operators married? _____

(b) do all such operators have legal custody of a child resident in the household? _____

FRONT AND CENTER

With all of the shuffling of units that is going on and scheduled to continue for some time, this may be a good time to review the Army's definitions of the various terms involved. AR 220-5 is the source:

To *constitute* means to include a new unit in the Army's troop program. It may then be activated. To *reconstitute* means to include a unit that has previously been disbanded.

To *activate* means to place on the active list a unit that has been constituted or reconstituted.

To *designate* a unit means to give it a number and/or name. To *redesignate* means to change its number and/or name.

To *organize* a unit means to bring it into physical existence by assigning personnel and perhaps equipment to it. A unit may be organized before it is actually constituted.

To *reorganize* means to change a unit from one type to another within an army or service, or to change personnel or equipment to conform to new tables.

To *convert* a unit means to change it from one arm or service to another.

To *inactivate* a unit means to place it on the inactive list. To *disband* means to withdraw it completely from the Army. To *discontinue* means to inactivate or disband a unit that has not been constituted.

Your reaction to what follows will depend upon your general attitude towards ladies in uniform. At the dedication of the WAC center at Fort McClellan, Ala., General Ridgway revealed that Wacs are now assigned to 19 of the 32 career fields. When the WAC was founded in 1942 it was thought that its members would be limited to four or five minor league tasks.

The next item on the docket in the revamping of Army organization is the creation of the Continental Army Command out of the present Office of the Chief of Army Field Forces. Continen-

tal Army Command will have more control over the six Continental armies and clearer lines of authority over training activities of those armies. It will also reduce the number of subordinate headquarters reporting directly to the Chief of Staff.

It has long been apparent that something should be done for the many non-regular officers who have been on active duty for ten or fifteen years under short term agreements. Now the Army has a plan to offer these non-regulars indefinite appointments and at the same time provide for those reaching certain ages to be retired. The age would depend upon rank. At the same time the Army hopes to be able to be more selective in choosing reserve officers who would be offered indefinite appointments. Under present law reserve officers on active duty may apply for retirement when they complete 20 years of federal service.

Three psychologists announced last month what many military men have long believed—that individual combat effectiveness and high intelligence go hand in hand. Drs. Robert L. Egbert, Tor Neeland, and Victor Cline of Human Research Unit 2, Office of the Chief of Army Field Forces, Fort Ord, Calif., interviewed 647 members of rifle companies in Korea before they reached this conclusion. It is just possible that they have finally destroyed the widely held fallacy (chiefly among civilians) that men with low mentalities make the best fighters. The psychologists found that good combat men also have these qualities: emotional stability; good physical health; great interest and competence in athletics; strong family ties; a high sense of social responsibility; they come from a somewhat higher economic and social group than inferior men in combat; they get along well with their companions in arms. These findings may soon affect Army recruiting and classification. Dr. Launor F. Carter, research director of Unit 2, has indi-

cated that there is a possibility that fewer high-IQ soldiers will in the future be placed in technical jobs, and combat units will begin to get their fair share.

The Army has been employing natives for certain types of work at oversea installations for many years. But what it was doing as a matter of course and without fanfare, became a widely publicized operation by the Air Force when the latter tabbed it "Operation Native Son" and made a successful bid for public approval and Congressional compliments.

Army tacticians working on the problem of re-supply of combat units by air have been attracted to the Canadian-built DeHaviland Otter, a rugged single-engined airplane that they believe may be the answer to the problem of supplying dispersed combat units. The Otter doesn't require hard runways for landings and take-offs and will carry a 500 lb. load. Considering the relatively short haul distances involved, one plane could deliver a respectable tonnage by shuttling back and forth. The Army hopes to get some Otters before long.

It has been reported that Piasecki Helicopter will install a turbine engine in the H-21 Work Horse if the Transportation Corps agrees and will contract for a prototype.

The Army is preparing regulations and forms for the use of soldiers in buying homes under the provisions of the new housing law. One interesting aspect is that a soldier does not have to buy his home in the immediate area where he is stationed as one of the purposes of the law is to make it possible for a career soldier to buy a home to which he will retire. The housing law provides for the government to insure the mortgage that a serviceman may borrow as much as 95 per cent of the cost of a home (not to exceed \$17,500). The interest rate is 4½ per cent.

ANYTIME....



LOGES

And anywhere . . . he's ready, willing and able . . . what's more he's particularly well armed to repel any force that threatens the security of free nations. > > Trained to the highest possible degree and supplied with equipment to complement this skill, the U.S. Air Force pilot is qualified to carry on the enviable tradition of America's airmen. To the vital end of building aircraft in line with such need, for more than a generation REPUBLIC has dedicated its full resources. > > The F-84-F THUNDERSTREAK is youngest in the dynasty of Thunder-craft . . . But it's already a veteran of many thousands of operational hours. Flexible as a rapier in the hands of Cellini and tough as a Toledo blade, the THUNDERSTREAK's performance is equally dependable at hill-top level or 45,000 feet. This puts in the control of our airmen and our allies in the N.A.T.O. a quicksilver sentinel of civilization.



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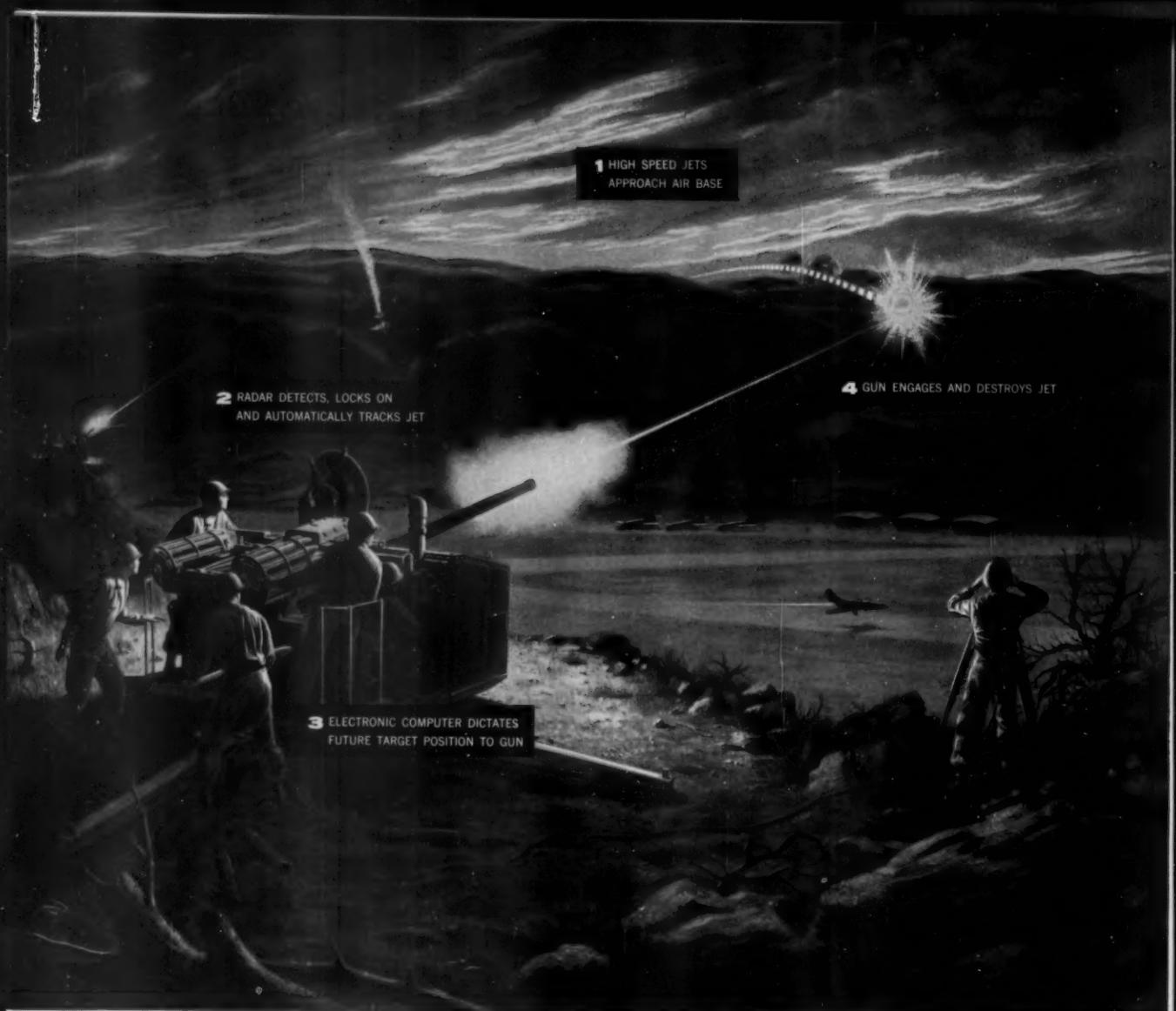


AVIATION



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■ "HOW CAN WE stop hostile jets that slip through our primary defenses?" News-men covering Army Ordnance's demonstration of the Skysweeper saw the answer to attack by high-speed aircraft at medium range—and spread the story over front pages from coast to coast. It was the story of a gun that could "see" through fog and darkness . . . pick out an enemy within a 15-mile radius . . .

compute its speed, altitude and course in seconds . . . then, automatically aiming itself, shoot the plane out of the sky.

■ Actually the story began when Army Ordnance anticipated the threat of faster flying jets and started to work with Sperry on the problem. Through its pioneering in radar, Sperry engineers were able to design the "eyes" of needed performance. From Sperry's experience in electronics came the "brains" to compute precise firing information. Sperry's developments in servo mechanisms provided the "muscles" for rapid aiming and firing.

■ The Skysweeper gunfire control system which resulted from the cooperative efforts of Army Ordnance and Sperry is typical of the many systems which Sperry has developed working with various branches of the military to meet critical needs. Once developed, Sperry manufacturing specialists convert engineering designs into precision weapons for large scale production. Among similar projects at Sperry today are systems for bombing and navigation, missile guidance and naval gunfire control.

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MEN IN SEARCH OF MOBILITY

MIILITARY mobility is more than trucks, tanks, helicopters, airplanes, Liberty ships and landing craft. It is also an amalgam of brains, ingenuity and imagination. Occasionally we are rewarded with flashes of information that emerge to reveal the potency of the latter when they are brought to bear with spirit and energy. The next four articles in this issue give such an insight. They present evidence that many men are devoting brains and know-how and imagination to the tremendous task of finding ways of moving armies and their supplies in the atomic age.

We begin with a report on how the Transportation Corps expects to get men and supplies over the beaches without their becoming fat targets for enemy bombers.

Then we have a submariner who has put his imagination and know-how together and tells us the nuclear-powered submarine may make possible over-the-water assaults on hostile shores in the atomic age.

An infantry major fresh from Korea shows us that the Army is learning more and more about the possibilities (and limitations) of the helicopter. The significance of this report is not so much what 3d Battalion, 27th Infantry, did as it is the knowledge that the Army is trying to find out all it can about what the combat forces can do with the whirly-birds.

And finally the long-pondered question of whether trucks in a combat division should be parcelled out to smaller units or pooled is being re-examined in tests in the Far East, Europe and the U.S. Here again the spirit of inquiry that motivates the tests are significant.

NONE of these reports is the last word, the final answer in the Army's search for tactical and logistical mobility. That is quite obvious. But they show a trend and they show progress. But much more significantly they show a robust attitude of inquiry and search that is vastly reassuring.

OVER THE BEACH

New techniques and equipment will revolutionize the handling of cargo from . . .

Ship to Shore

HARRY A. JACOBS

IN anticipation of the need for over-the-beach supply if war should come again and to fill the increasing demands of the combat arms, the Transportation Corps, through its Research and Development Command at Fort Eustis, Virginia, has been devising new procedures and equipment for cargo handling.

From its many amphibious assaults during World War II the Army acquired an invaluable insight into the strategic, tactical, and logistical requirements of over-the-beach supply operations. The improvement of the then existing methods and equipment for cargo handling received the greatest initial attention at Fort Eustis. But with tremendous changes being made in matériel and in the future conduct of combat operations, the emphasis has been gradually shifted to completely new methods and procedures which in many instances are radical departures from earlier established practices.

The quantity and scope of logistical support required in modern operations has increased rather than decreased, and any new equipment must have maximum load capacity, transportability, and efficiency of operation. The demand for new transportation tools has been further heightened by the need for the Army to be able to supply itself entirely over the beach.

Army planners were fully cognizant of the significant role played by over-

the-beach resupply operations in support of amphibious assaults. They recalled, in planning the Transportation Corps' research program, that for 41 days after D-Day in Normandy two U. S. field armies relied almost exclusively on over-the-beach resupply for their logistical support. They also recalled that the DUKW, best known of the World War II amphibious carriers, moved ashore about 40 per cent of the supplies required by the American forces in France the first four months after D-Day.

CONSIDERING amphibious carriers as an important item of equipment in over-the-beach operations, the Transportation Corps placed a great deal of emphasis on the improvement and enlargement of the DUKW. As a result we have today, in various stages of development, a new family of amphibious carriers—the Superduck, the Drake, and the BARC.

Additional research and development now provide the Army with a conception of future port and beach operations in which new items of equipment and new procedures will be employed. Among these new items are the aerial tramway, the beach lighter, the overland conveyor, the packaged port, and the amphibious trailer train, as well as the versatile helicopter. The employment of the new equipment is portrayed in a number of artists' conceptions which are based on what actual over-the-beach operations may look like in the future.

Revolutionary changes are being planned in the overall concept of military transportation methods. These changes are based on the fact that almost 25 per cent of military cargo is wheeled or tracked and that another 50 per cent

can be carried in containers weighing up to five tons each. From these facts came the Roll-On-Roll-Off and containerization principles.

Food, ammunition, clothing, construction materials, and other supplies can be moved ashore on amphibious carriers, aerial tramways, or landing craft; but the vast majority of trucks, tractors, tanks, self-propelled artillery, and other mobile items of equipment can be brought directly to shore aboard heavy beach lighters and moved inland immediately under their own power.

The only vessels presently available for Roll-On-Roll-Off use are the LCM-8 (60-ton capacity) and the LCU (150-ton capacity). For future use the Army is designing a beach lighter capable of carrying a load 15 times greater than that of the LCU.

To implement the containerization principle a reusable steel container has been fabricated with a capacity of 295 cubic feet. The outside dimensions of the container measure 8 feet 6 inches in length, 6 feet 3 inches in width, and 6 feet 10 inches in height. Items of this type speed up movement of cargo and provide security and protection from the elements. Furthermore, they can be handled readily by conventional means of transportation as well as by the new equipment.

Should the United States again have to participate in all-out global war, over-the-beach logistical support* of our forces on foreign shores may well employ all of these items and many more now in the process of development by the Transportation Corps.

*In referring to over-the-beach operations the term LOTS (Logistics over the Shore) is often used.

MR. HARRY A. JACOBS has contributed several articles on transportation developments to technical journals. A graduate of Georgetown University, he served with the 4th Armored Division during World War II. He is a civilian employee of the Office of the Chief of Transportation.

The Aerial Tramway

AN entirely new idea in over-the-beach operations that has been developed since World War II is the aerial tramway. While the tramway has been in use for some time in commercial and industrial enterprise, its adaptation to military use is new.

Several prototypes of aerial tramways already are in existence; one 4500 feet in length has been erected at Fort Eustis. Their availability in the future will greatly decrease the Army's dependence on fixed port facilities where geographic conditions prohibit the use of amphibious carriers in the movement of cargo from ships to supply dumps.

The component parts of the military tramway are designed for convenient storage, maximum transportability, and ease of erection. With two 10-ton sky-cars per tramway, it will eventually be able to handle up to 80 long tons of cargo per hour, roughly equivalent to the capacity of conventional small port facilities. Yet the tramway will retain the desired mobility.

The accompanying cut illustrates a potential use of the aerial tramway in ship-to-shore movement of military cargo. A nearby port (left background) has been destroyed and rendered useless in a pre-invasion atomic attack. The remainder of the coastline in this area is inaccessible to landing craft, save for the small undamaged pier in the foreground. Road and rail facilities in the area escaped major damage.

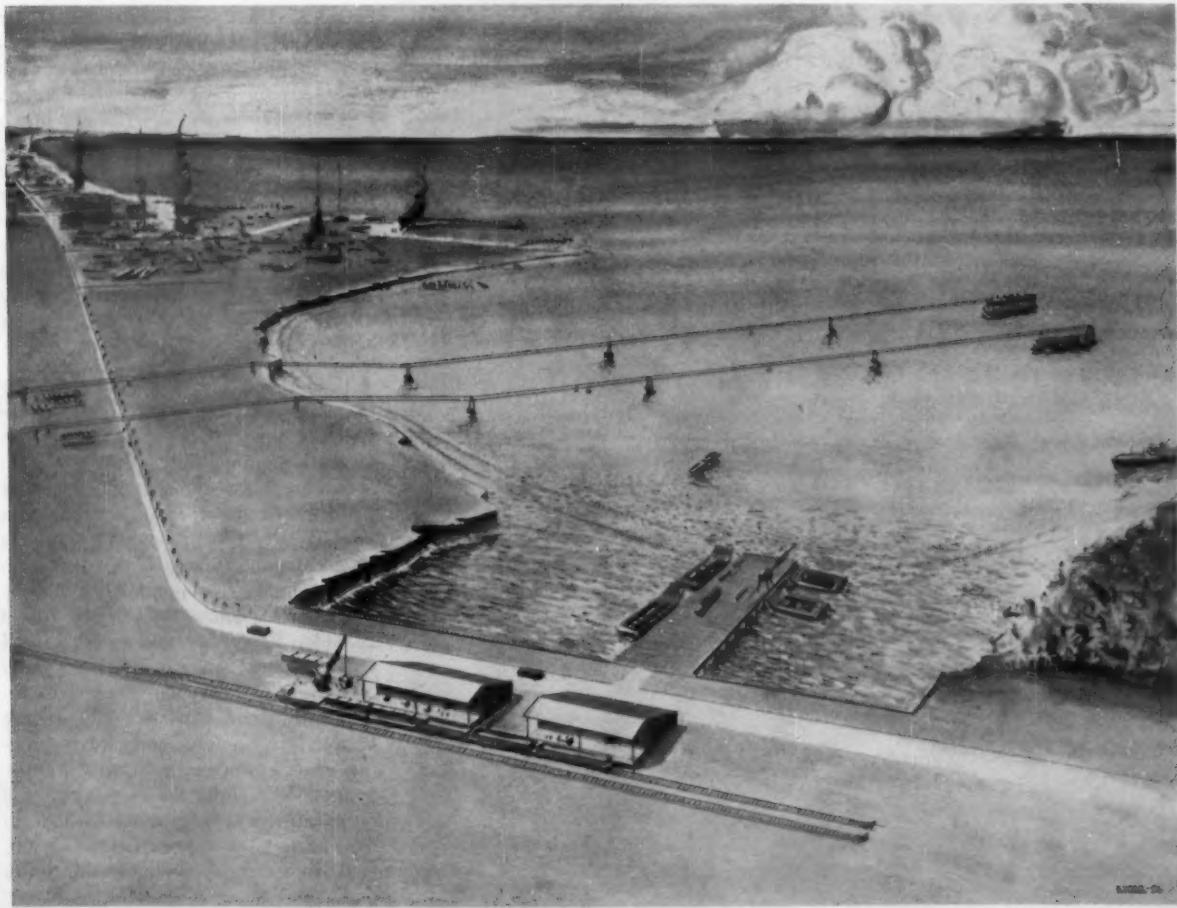
By using the pier alone for the discharge of cargo, the barges, lighters, and landing craft shuttling between the ships and the shore probably are processing barely enough supplies each day to support the combat action taking place farther inland. The success of these over-the-beach efforts depends largely on favorable weather conditions and an absence of enemy interdiction.

TO increase the capacity of the operation, two aerial tramways are installed within 48 hours. With 75-foot steel towers to support the traction cables, the

tramways are extended from a point 400 yards inland to a pair of barges moored securely some 2,000 yards offshore. Here the outer terminals of the tramways are installed. The towers between the opposite ends of the tramways are secured either to the floor of the beach or to the ground.

The barges, or "sea islands," are each large enough to serve as floating piers for two ships. Cargo is unloaded directly into racks lowered from the sky-cars.

The self-propelled sky-cars move from ship to shore and return at speeds up to thirty miles per hour, carrying up to ten tons per trip. With two sky-cars in operation on each tramway, the daily capacity of this small one-pier port can easily be tripled. When no longer required here, either or both of the tramways can readily be dismantled and moved to another site. On the other hand, if the combat situation requires displacement of the supply dump to a point farther inland, either or both of the tramways can be extended.



New Amphibious Carriers

THE World War II DUKW's principal disadvantage was its limited cargo capacity. Compared with the LCM-6, which could carry thirty tons, the DUKW's performance, with 2½ tons, was poor. On the other hand, the DUKW was capable of crossing the beachline and moving directly inland without discharging its cargo, while the LCM-6 could move only as far as the water's edge, where its cargo had to be transloaded.

Army research and development engineers have now in various stages of development three new amphibious carriers which enlarge upon the principle so successfully demonstrated in the DUKW. These new carriers are the XM-147 amphibious 6x6 truck, called the Superduck; the XM-157 amphibious 8x8 truck, called the Drake; and the barge, amphibious, resupply, cargo, known as the BARC. The Superduck and Drake

are products of Ordnance research and development, while the BARC is being developed by the Transportation Corps.

The Superduck is a greatly improved version of the DUKW. Without having greater overall dimensions than the original carrier, the Superduck is designed to carry four tons of cargo, although Ordnance rates its capacity as two and a half tons. Both carriers have substantially the same roadability characteristics.

The Drake, next logical step in the development of the amphibious carrier family, is still in the developmental stage. It will be built along the lines of the Superduck, although proportionately larger, and will travel on eight wheels rather than six in order to accommodate up to ten tons of cargo. The Ordnance load rating is eight tons, however. While its roadability may be restricted somewhat because of its 10-foot width (compared with the Superduck's

8 feet 7 inches), its size will not be too great to preclude satisfactory performance on land.

The original DUKW, the Superduck, and the Drake may be described as trucks fitted with hulls, designed primarily to operate efficiently on direct ship-to-supply dump hauls. Amphibious carriers larger than the Drake may be described as barges fitted with wheels. Into this category falls the BARC, third and largest member of the new family.

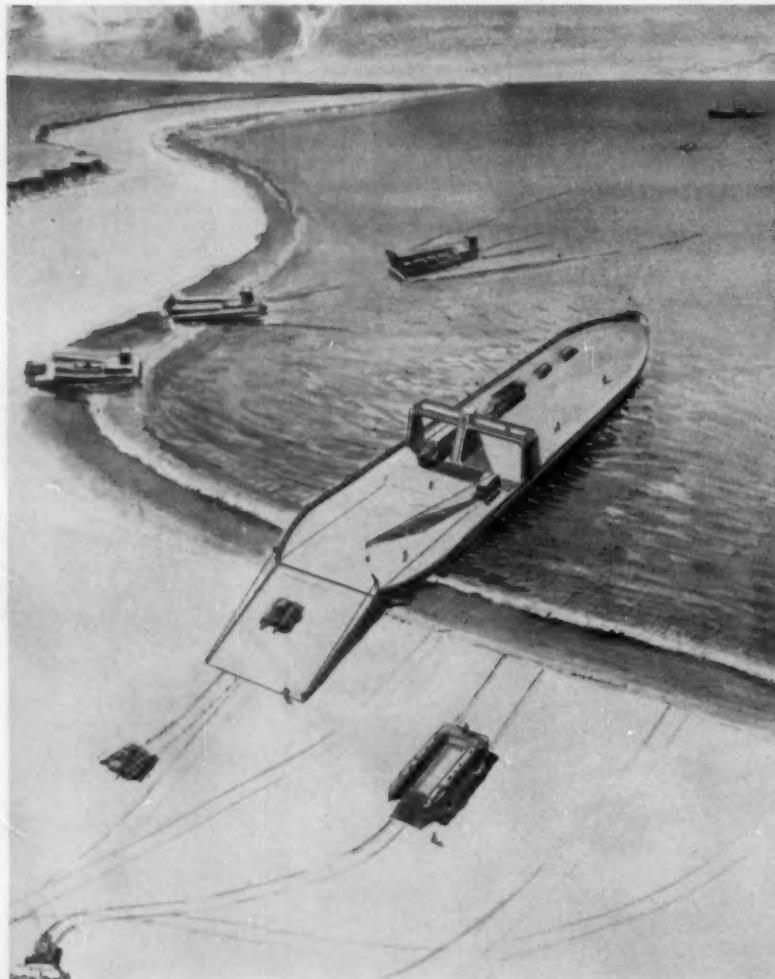
The BARC has the advantage of tremendous cargo capacity (sixty tons), approximately twice that of the LCM-6; but its huge size (27 feet in width) makes it impractical for operation on standard roads. The BARC can move cross-country, however, and is expected to operate several hundred yards inland from the beach.

Consideration is also being given at Fort Eustis to the design of amphibious trailers of up to 20-ton capacity. One conception is to use the loaded trailers with Superduck and Drakes, while another is to form trains by having two or more trailers towed afloat and ashore by specially designed amphibious tractors. In the latter conception a continuous ferrying service would be feasible.

The Army is also designing a beach lighter with a capacity of 2,000 tons. Preliminary sketches indicate that the lighter will be approximately 300 feet in length and will have about 15,000 square feet of deck space. It is primarily intended to carry cumbersome mobile equipment such as heavy tanks, heavy artillery, and engineer construction equipment.

At another beach (see cut) some distance from the aerial tramway installation there exists only a wide stretch of gently sloping sandy shoreline. There is no port in the immediate vicinity and hence no fixed port facilities. The firm sand on the beach, however, presents an ideal opportunity for the full employment of modern amphibious carriers.

Near the center of the beach area a 2,000-ton lighter has touched shore and is discharging the last of its mobile cargo of tanks and heavy engineer construction equipment. To the right of the lighter, heavy landing craft are discharging mobile and self-propelled equipment. Meanwhile, the majority of the bulk cargo is being moved ashore in 4-ton Superducks and 10-ton Drakes, as BARCs carry the bulldozers, medium tanks, and medium artillery.



One half of a Superduck transportation company is moving 50 per cent of the load across this beach. Although limited in capacity to four tons per vehicle, the Superducks are capable of carrying the main burden because of their excellent roadability characteristics. A good two-lane highway within a mile of the beach enables the Superducks to operate under optimum conditions in moving supplies to the inland dumps.

The Drakes, carrying substantially

heavier loads, are used to move cargo to a transfer point where the Army's new rough-terrain forklifts (rough terrain forklifts of 3- and 5-ton lift capacities are being service tested in Korea by the Transportation Corps) transfer the loads to waiting trucks. At the same time an amphibious tractor-trailer train moves up across the beach toward its destination.

As a result of the use of amphibious carriers, heavy landing craft, and lighters, the beach is not cluttered with sup-

plies or with service personnel and equipment required formerly for the transfer of cargo from landing craft to trucks. Bulk cargo, vehicles, and mobile equipment are moved directly across the beach to initial inland destinations. Maximum dispersion of personnel, equipment, and supplies is thereby easily achieved. It is important to note that on short notice the entire operation can withdraw from this beach and move to another similar site if the situation so requires.

The Packaged Port

ON the basis of its experience with the Mulberries, the prefabricated piers used in the Normandy invasion, the Army sought in the post-war years an easily transportable unit that would provide basic pier facilities wherever needed without additional large-scale, on-site construction. Attention was focused ultimately on the DeLong pier, used frequently by commercial firms for offshore oil drilling and temporary terminal facilities.

The DeLong pier is an oversized steel barge which can be towed readily to a desired site. When it is ready for installation, steel caissons six feet in diameter are dropped through wells in the barge. The barge is then elevated by ingenious pneumatic grippers, which cause the barge literally to climb the caissons until the desired pier elevation is attained. Two or more such piers, varying in length from 300 to 400 feet, now form the basic components of the Army's so-called packaged port.

One additional item used in the packaged port, as well as elsewhere, is the portable overland conveyor, which is being developed rapidly with the basic idea of providing a continuous transportation system from the waterline or pier to initial inland supply dumps. At distribution points, smaller sectionalized conveyors also may be set up to keep supplies and equipment moving forward toward the front. The conveyor systems, large or small, will be readily transportable by land, sea, or air.

IN another coastal area nearby (see cut), in a small natural harbor, a typical minor port has been gutted in one of a series of pre-invasion atomic attacks. So complete was the destruction that none of the port facilities can be used by our forces.

Nevertheless, because of its strategic

location the Army has decided to use this port area. Within 30 hours after the arrival of engineer and port terminal units the port is in operation. The Transportation Corps solved this problem by towing in one of its packaged ports to replace the wrecked port facilities.

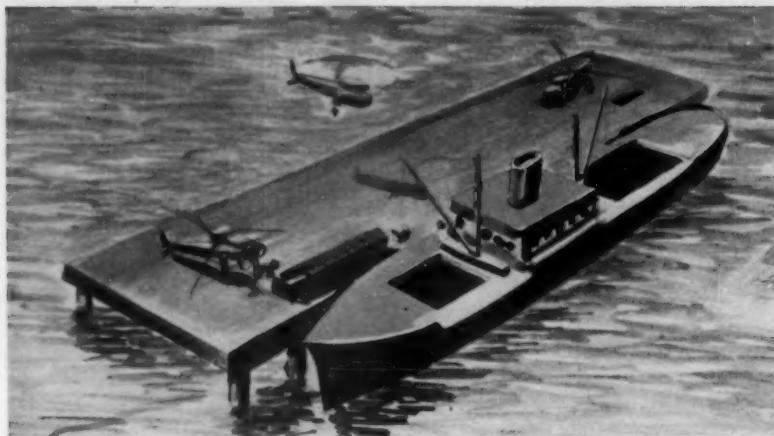
After installing a DeLong-type pier, terminal unit personnel complete the laying of an overland conveyor system which extends from the outer end of the pier through the destroyed port to the initial distribution point farther inland. Extension of the conveyor along the length of the pier permits direct discharge of cargo onto the belt system from the landing craft and lighters tied up on both sides of the pier.

At the other end of the conveyor system the cargo, packed mainly in prefabricated steel containers, is moved directly onto trucks or rail cars or is removed and stacked by mechanized cargo handling equipment. The basic conveyor system probably will be able to handle up to 150 tons per hour, despite the fact that some of its sections move the cargo over 36-degree grades.

The packaged port involves maximum use of prefabricated port equipment in order to install in the minimum time facilities of strength and stability rivaling deliberately constructed ports. Addition of the conveyor system to the packaged port also provides for great speed in cargo movement with a minimum of interim handling.



Cargoes by Helicopter



THE versatile helicopter can be employed effectively in over-the-beach resupply, especially in temporary sustaining operations designed to bridge gaps in the logistics chain. The larger helicopters now being built can handle heavier loads of equipment over greater ranges with increasing efficiency and speed.

Cargo can be loaded directly into today's medium helicopters, while bulky equipment can be carried in nets slung beneath the fuselage. A helicopter company equipped with twenty-one medium helicopters is capable of handling 9,500 ton-miles of cargo per day, or over 450 ton-miles per helicopter per day.

Logistics for the Future

THE emphasis being placed by the Army on the development of new and improved over-the-beach operational procedures and equipment is predicated on a simple evaluation of the characteristics of modern warfare. In view of the wide radius of destructive power possessed by nuclear weapons, future combat operations will stress maximum dispersion in both forward and rear areas. In turn, this means that military forces will be required to operate in smaller groups spread over large land areas.

Even if it were possible to protect major fixed port facilities from mass destruction attacks, it is doubtful that the supplies required by the many widely scattered units could be handled successfully through a few large ports. On the other hand, ability to establish over-the-beach resupply operations at sites dictated by the disposition and strength of the front-line units would reinforce further the combat potential of these forces. It would provide them with a freedom of movement which would reaffirm the element of surprise as a tactical weapon.

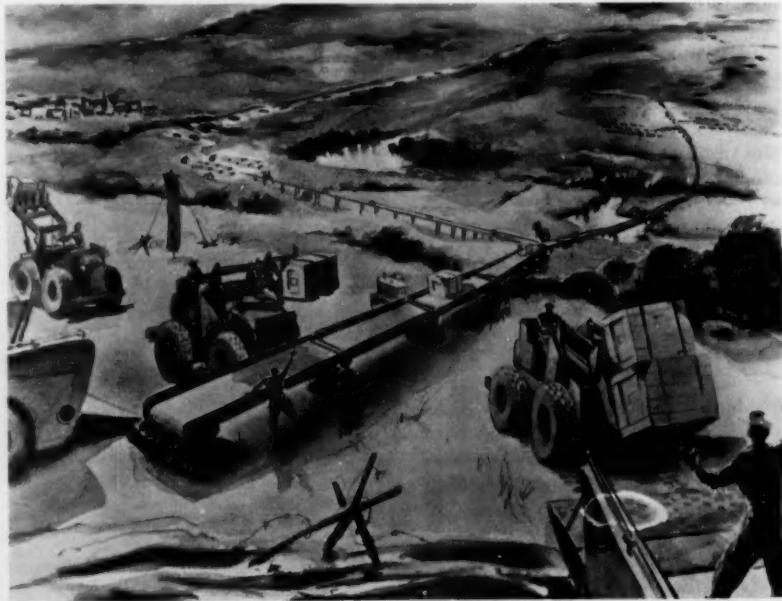
Accordingly, the Army must be ready in the future to provide terminal facilities along any given coastline, regardless of the availability of fixed port installations. Further, with a minimum of warning it must be prepared to transfer operations from conventional harbors and ports to rugged, undeveloped beaches. Transportation Corps terminal units

must be trained and equipped to land with the assault elements and establish over-the-beach supply lines in the least possible time.

But what do these developments mean to combat troops? Stated simply, they assure them of continued movement of vital supplies and equipment under virtually all conceivable conditions. In addition to guaranteeing the combat troops adequate logistical support, the ability to establish terminal facilities

along practically any shoreline will provide assault units with greater flexibility, mobility, and versatility.

With an entirely new family of amphibious carriers in the making, with new and readily transportable beach and port equipment in the process of development and refinement, and with new and more efficient cargo and equipment handling procedures in test stages, a new and stronger transportation link in the logistics chain is being forged.



THE ARMY COMBAT FORCES JOURNAL

ASSAULT Troop Submarine



The coming of nuclear-powered submarines capable of carrying sizeable numbers of troops (or large quantities of cargo) for long distances gives the soldier a new medium of approach to the enemy's vitals. The prospects are intriguing.

COMMANDER G. W. KITTREDGE

THE sea was calm and still. The officer on the periscope gazed steadily at a small island. Every now and then, he stepped back and made a motion to the Quartermaster. It was a downward gesture with his thumb. The Quartermaster, on seeing the motion, would run down the periscope and then raise it almost at once. Ducking the periscope

washed away the salt from the upper lens. As soon as the periscope was up again, the officer resumed his ceaseless vigil—watching the small, green tropical island. The name of the island was Makin.

All day long on the 16th of August, 1942, two submarines, the USS *Nutilus* and the USS *Argonaut*, circled Makin Island submerged, and reconnoitered. Tomorrow was to be the day when the 211 marines the two submarines carried would hit the beach. But today while the two of them cruised around the island at periscope depth with forty feet of water over their fat hulls, the 198 men and 13 officers of Companies A and B, 2d Raider Battalion, slept or played aye-deucey or drank coffee.

If the raid on Makin Island was only

the story of another successful operation of American armed forces, it would still be worth telling. The Makin Island raid had everything to capture the public's imagination. It was colorful. The marines were commanded by Colonel Evans F. Carlson of "Gung Ho" fame and included one of the sons of the late President Roosevelt. It was novel. The raid involved a new type of operation—the landing of combat infantry, from submarines deep within the enemy's territory, without air support or the support of other forces. It was necessary. The raid wasn't a gimmick or a grandstand play because it took place at a time when the Marine force on Guadalcanal was hard pressed and something had to be done to disrupt Japanese plans for reinforcing Guadalcanal from the Gilberts.

COMMANDER G. W. KITTREDGE, U.S.N., is a submariner who graduated from the Naval Academy in 1940. During the Second World War he served on several submarines and commanded the *Grouper*. Since the war he has participated in operations into the Arctic and Antarctic, served as an assistant naval attaché in India, and commanded two different submarines. He is now on duty in the Office of the Secretary of Defense.

The raid on Makin Island was successful. After dark on the 16th of August, 1942, the two submarines, *Nautilus* and *Argonaut*, surfaced and rendezvoused. Shortly after midnight on the 17th the marines began to disembark. By 0421 all marines had left the submarines and were on their way to the beach in rubber assault boats. At 0513, communications were established. The raider group was on the beach. Once there, they wiped out the enemy garrison almost to a man. They destroyed two airplanes, a radio station and a supply dump with 900 barrels of gasoline. The two submarines, supporting the raiders with their guns, disabled a 3,500-ton transport and smashed a small patrol vessel. The action took two days. On both days, the supporting submarines were forced to dive by Japanese air attack. In the evening of the second day, the last of the marines were taken off the beach and the submarines headed back to Pearl Harbor. Yes, the operation was a success, but how much of a success? Aside from the cold, hard statistics of enemy losses, what did it accomplish? First, it accomplished its mission. It made the Japanese high command believe that an invasion of the Gilbert Islands was impending and the guns, troops, and aircraft which were badly needed by Japanese forces on Guadalcanal, remained in the Gilberts. Secondly, two companies of combat infantry accomplished through surprise what it later took 6,500 troops to do by prepared assault.

But the raid on Makin Island during 16-18 August 1942, did more than these two things. It was the first time submarines, entirely on their own, had ever been used as assault troop transports and it may very well have laid the foundation for landing operations in another war.

ON 1 March 1954, a hydrogen bomb was exploded at the Eniwetok proving ground. The power of this bomb was reported by a member of the Joint Congressional Committee on Atomic Energy as twelve to fourteen megatons (a megaton is equal to 1,000,000 tons of TNT). This represents an explosive force of 600 to 700 times that of the bomb that destroyed Hiroshima and Nagasaki. Almost a month later, on 26 March 1954, an additional thermonuclear test took place. After the second explosion, Admiral Strauss, chairman of the Atomic Energy Commission, stated, "... the results of these tests have brought us very much nearer to the day of the

satisfaction of our military requirements, put us within sight of them. . . ." The *New York Times* on 1 April took this statement to mean that the United States can now make hydrogen bombs of sizes that can be carried by small- and medium-size fighter planes and guided missiles, since the armed forces would never be satisfied with bombs that could only be carried by a B-36 or similar large bomber. In the same issue, *The Times* gave a table of destruction which would result from the explosion of a hydrogen bomb. The table was based on a bomb of ten megatons explosive force, bursting in the air at an altitude of 2,000 feet. According to the table, total destruction would result over a diameter of eight miles; severe damage over a diameter of sixteen miles; moderate damage over a diameter of twenty-eight miles; partial damage over a diameter of thirty-two miles; however, destruction by fire would be much greater than destruction by blast and the limit of incendiary action would stretch over a diameter of fifty miles, or a total area of almost two thousand square miles. All of which boils down to the single question:

Are prepared landings of the Normandy beachhead type still possible in view of the hydrogen bomb and the apparent ability of even small tactical aircraft to deliver it?

DURING the last war, a successful landing usually required three definite steps. Step one was the preparation for the landing—the assault by naval and air forces so as to soften up the enemy beachheads. This preparation by air and gunfire usually took two days. Step two consisted of the landings themselves with the assault troops embarking in small boats and carving out a beachhead. The time spent in this phase varied in accordance with the resistance met. It could have been a couple of hours or it could have been a couple of days. The third step was invariably the longest. This was the build-up of the reserves and supplies necessary to capture the position (as required by Pacific operations) or to pave the way (as in Europe) for step four, the breakout. In any event, this transfer of logistical support from ship to shore took time, and during that time the ships had to remain in the area where they were particularly vulnerable to air attack because of limited space to maneuver and their unloading activities. During the last war, this was a calculated risk. The hazards of enemy air attack were known and the damage they could

do had been learned by experience. The task force commander did what he could in the way of providing combat air patrols day and night, but some enemy planes got in and at Anzio and Guadalcanal and Normandy the support vessels stayed and took their losses because the troops ashore were doomed unless they got supplies.

But when we have one bomb that will result in incendiary action over a circle fifty miles in diameter, can any of those troops or supplies get ashore from a group of transports milling around ten miles off the beach in standard landing maneuvers? When we have one bomb which can bring about total destruction over an area of fifty square miles and incendiary action over an area of almost 2,000 square miles, is the assault type landing as we knew it in the last war any longer a calculated risk? Is any task force commander going to be prepared to say that his fighter defenses are so absolute that not one enemy plane will be able to break through? He has to be able to say that; otherwise his entire landing force is liable to be wiped out. In order to achieve maximum superiority on the beachhead, he must concentrate his force. But with this new and terrible destructive power—the hydrogen bomb—one enemy plane breaking through can either annihilate his concentrated force or so badly disrupt it as to make it no longer effective. It is hard to believe that any task force commander would undertake such a responsibility. He has, of course, an alternative. He can disperse his landing force in order to minimize the effects of the bomb. But if he does this, he dissipates the effectiveness of both his own defensive abilities and the offensive capabilities of the landing force. It would be like committing reserves to a battle piecemeal—a little here and a little there, to be swallowed up by the enemy who is fighting on his own terrain.

THERE have been many approaches to this problem but none so popular of late as the one that starts with: "They won't use atomic weapons in the next war. They'll be outlawed by common consent like gas in the first World War. Too horrible, everybody will be afraid of retaliation." In answering this, we have only to ask ourselves the question, "If an enemy invasion force were sighted 300 miles off Sandy Hook, steaming for the Jersey coast, would we who dropped atomic bombs on Hiroshima and Nagasaki drop a hydrogen bomb on an enemy

force which was going to invade the United States?" Now then, let us put ourselves in the place of the enemy and ask the same question, "Would he drop it on one of our task forces?" For the art of amphibious warfare will, of necessity, undergo a change.

Such a change may take numerous directions. It may result in increased emphasis on airborne assault and airborne supply. But with our present stage of technological advancement and the distances which would be involved in any landing we might have to make, it is difficult to see how logistical support could be achieved by aircraft in any but extremely limited operations. Therefore, the most logical pattern of future operations for the landing and supply of U.S. troops on foreign shores, lies in the direction already forecast by the Makin Island raid of 1942—by submarine troop transports and submarine supply vessels. The use of submarines for such operations would result in two distinct advantages. The first would be relative safety from thermonuclear weapons at all times (except the actual few minutes it would take for the submarine to surface and debark the landing personnel). This safety, of course, would result from the fact that to bomb the group of assault troop submarines, it would be necessary to detect them. The best means of detection in warfare is still the human eye. Besides being unable to see a submerged submarine, it is extremely difficult to detect one by other means. Contrary to popular conception, radar will not work under water.

THE second advantage obtained by using submarines as assault troop transports, would be *surprise*. Surprise is a fundamental of successful warfare, and surprise and detection are inversely proportional to each other. It is axiomatic that if your enemy cannot detect you, you are in a position to surprise him. The ability to effect a surprise landing along a coastline gives the submarine troop transport a tremendous advantage. Let us take a hypothetical situation. The Germans during World War II built almost two thousand submarines. Let us suppose they had constructed one thousand submarines as troop transports with each submarine carrying, say, fifty combat infantrymen since the German submarines were smaller and could not have carried as many men as the *Nautilus* and *Argonaut* did on the Makin Island raid. And further, let us suppose that we had had no advance intelligence that this force

was at sea, heading for the east coast of the United States. What could have happened? If everything had gone along like the Makin Island raid, more than three German divisions could have been landed along our coast. Remember, we are only concerned with the immediate landing! It is extremely doubtful that we would have had any more success in opposing such a landing than the Japanese had at Makin Island, because the German submarines would have effected complete surprise and their landing force would have achieved local superiority.

YOU ask: How does this prevent that one aircraft from dropping a hydrogen bomb as the troops are discovered in the act of landing? If the same sort of reasoning is applied to the hypothetical case, we need only to look at the time it took the raiders to get ashore at Makin Island. It took the marines almost an hour to get ashore at Makin. The hypothetical case becomes more than a calculated risk when there is an hour's warning to get a plane with a hydrogen bomb to the beachhead. Even after the troops hit the beach they can't disperse fast enough to get out of the blast area and that's assuming they had complete surprise and no opposition.

All of this is true and proves that we have to change our concept of amphibious landings. Why do we take a beachhead? Why don't we go right into a port like the Germans did at Oslo or the Canadians did at Dieppe and disembark our troops directly onto the docks? We don't do that because we could not effect complete surprise that way. The enemy would have time to prepare his defenses and therefore, since it is a very old precept of warfare that ships can not attack land fortresses with any measure of success, the landings would be beaten off. That is the reason we have developed the beachhead landing so that we can choose some isolated spot where the enemy's defenses are weak because he can't be strong everywhere. But even the strongest of defenses can be breached momentarily by surprise as they were at Dieppe and Oslo and therein lies the defense against the hydrogen bomb. A surprise landing by assault troop submarines should be made as close to a large enemy port as possible in order that the use of nuclear weapons would include the port in the blast effect. The objective of such a landing should be to seize the port and its dock facilities at the earliest opportunity. Let us turn to our hypothetical case.

Suppose our enemy landed his three divisions from his submarine transports and seized Rockland, Maine. What would our immediate reaction be? To drop a hydrogen bomb on Rockland, Maine? That would eliminate the three divisions but it would also eliminate Rockland. After that the people up and down the East Coast would not be very eager to prosecute the war if they knew their own air force would drop a hydrogen bomb on them should they happen to be the next port assaulted. No government could perform such a preposterous act against its own people and expect to remain in power. Therein lies the defense of the landing force against the hydrogen bomb—the hostage value of the port. The ships that transported the landing force are another matter. If they are surface ships, once they have cleared the area where the blast effect of the hydrogen bomb will not injure the port, the ships are fair game. But submarine transports, once they have unloaded their troops and submerged again, where are they? I recognize that there are flaws in the above reasoning but I still believe there are many great advantages to submarine troop transport. It is relatively immune to aerial attack for the simple reason that it cannot be seen by the attacking aircraft.

THE question will naturally arise: Is it possible to build an efficient troop transport submarine? Or a cargo type submarine, because the troops will need support after they have landed? The answer is, never has it been more possible! Both types have been constructed in the past but recent developments open awesome possibilities. The first nuclear-powered submarine (named for the old *Nautilus*) is now a fact instead of a theory. As a result of this new source of power and the air revitalization device which was developed during Operation Hideout at New London last year, submarines will be able to transit whole oceans without coming to the surface. The new reactor development program of the Atomic Energy Commission should greatly reduce the size of nuclear power plants but the effect of eliminating the electric batteries in submarines should alone increase the living space by an additional third.

We are entering a new era—an era of nuclear power. Let us hope we use this new power wisely and apply it to all our modes of warfare, for when the whole sea is available to us, to be used to our advantage, why should we use just the surface of it?

THROUGH THE AIR

Want to move an entire infantry battalion by helicopter? Can do. But there are drawbacks that you ought to know about. Here's how it was done in . . .

Exercise Lift

MAJOR JAMES S. DOUGLAS



A five-man group boards a helicopter

20

LAST May the 3d Battalion of the 27th Infantry ("Wolfhounds") demonstrated, at a cost of nearly \$24,000, that an entire battalion could be moved by helicopter to defensive positions ready to fight. But it also showed that this mode of transportation has limitations.

In a period of less than a week, the Battalion S3, Capt. Harry Floyd, developed definitions, procedures, and training techniques that made possible a successful move. As there were no field manuals on the subject, Captain Floyd made use of his experience as an airborne officer and wrote a complete SOP for both embarkation and debarkation. He also drew out of the thin air a time schedule and control system for the flow of both the helicopters and personnel.

We understood, from talking to the pilots of the helicopters, that when most unit commanders thought of helicopter transport, they visualized entire fleets of the big cargo ships alighting at one point, loading up with men, and then taking off in a mass flight. This battalion elected not to try that system for two reasons. First, there was no single place in the regimental sector where 20 helicopters could safely mass at one time. Secondly, we believed the control system would become so involved that the choppers could not be used effectively. The method actually used bore a deliberately marked resemblance to the airborne technique of marshalling. This will be discussed later in the article.

There was very little background information to study. The 45th Transportation Battalion (Helicopter) supplied some general characteristics and load

data, but these served for little else than to focus attention on what we could expect from the machines. For example, we knew that with a full gasoline load each helicopter could carry only about 1,000 pounds of cargo or personnel, and this only during the times when the air was dense. In the afternoons, when the air was normally warmer and less dense, either the cargo load or the gasoline supply had to be reduced. We found, by aerial reconnaissance and trial, that there were severe limitations to our choice of embarkation and landing sites. Helicopter pilots, like pilots of fixed-wing aircraft, require two approaches. We contemplated sites at the base of hills, but downdrafts made control of the ships almost impossible.

These matters may appear of little consequence, but our mission was to move the battalion to its prepared battle positions, which were in the hills. Our problem here was to determine whether we would save time by landing troops at a point well back from the hills and then walking them to the positions.

WE were trying to test the feasibility of moving the entire battalion, combat loaded and under combat conditions, into pre-selected defensive positions. We proved before we ever started that we could not, because the terrain would not permit. We therefore had to establish an artificial tactical situation which would permit landings, and we had to locate a defense sector where the machines could come close enough to warrant the use of helicopter travel. The only suitable ground was an area that more than likely would never have been selected for defense by any force.

The most fallacious assumption we made was the existence of absolute friendly air superiority. It was fallacious because in the problem we were required to make all possible haste because of an enemy threat, yet we completely domi-

MAJOR JAMES S. DOUGLAS was serving as S3 of the 27th Infantry Regiment at the time of the operation described in this article. He has since become Commanding Officer of the 3d Battalion of the 27th. He is a 1944 graduate of the Military Academy.

nated the air. In other words, we were given an ideal situation—one which we could never guarantee ourselves in the event of hostilities. And even with this ideal situation, we still needed over two hours to complete our move after our personnel were ready. If trucks had been available under these same luxurious tactical conditions, we could have moved faster over a poor road net five times as long as the air route.

WHAT was proved then? First, that a fully combat-loaded battalion could be moved by helicopter; and secondly, that the H-19 helicopter is merely another mode of transportation, which, like other modes, has severe limitations. It does not replace the work horse of the Army, our 2½-ton truck.

One of the more interesting facets of the planning was the loading system developed by Captain Floyd together with the S4, Captain Jemison. In order to get all men into position in a condition to sustain a fire fight, we moved with almost every man carrying about 75 pounds of weapons, ammunition, food, and personal gear. Our initial estimate had been in the neighborhood of 50 pounds each. We planned for, and accomplished, an aerial resupply of ammunition during the exercise. This could not be done simultaneously with troop movement, and the nature of our mission indicated the need for rapid occupation and for preparedness. The only weapon we did not take was the 105mm recoilless rifle. We have yet to figure out how to fly one of those.

One of the primary tactical considerations was to secure the airhead, and the bulk of K Company was selected for that mission. It will be noted in Sketch 2 that we selected at the bivouac area four airports, each with its own integral assembly area and loading station. By dividing K Company among the four ports and putting the security force personnel into the loading stations first, we were able to insure that the first hundred men to leave the field were part of that security element. Each plane could carry only five men with their equipment, so we could not send a full tactical group in any one single helicopter.

The danger that one or more ships might be lost to enemy action made it inadvisable to group key personnel, or more than one crew-served weapon, in any one ship. Except in one case, where we combined one light and one heavy machine gun from M Company, we adhered to this concept. It meant, in essence, that for a period of time tactical



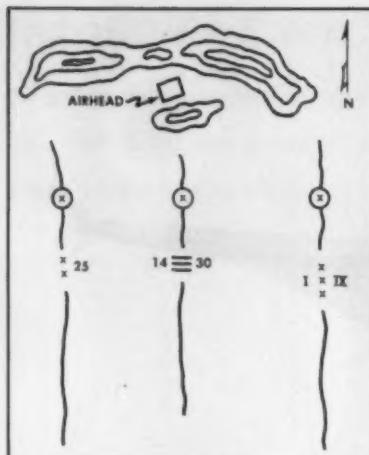
As the landed men move out, the ship turns back for another load

and unit integrity had to be sacrificed. No commander relishes such an action in the face of the enemy, but here we had no choice.

THE plan was to divide the other rifle companies into two groups, after integrating their weapons platoons, and to place the two groups in different assembly areas. We had to know, of course, exactly how many men we would be required to transport. Each rifle company was limited to 135 men and had attached to it four medical personnel. Attached for purposes of movement only

were five men from Headquarters Company and the six members of the control group for one port. Similarly, the Heavy Weapons Company was limited to 100 men, plus attachment of three medical personnel, six men from Headquarters Company, and the six control group personnel. The Headquarters group was left with 50 men, and the fighting strength of the battalion as moved was 600.

With these data and plans, the company commanders could start their work. They had to fill in names and distribute the weight loads by name. M Com-



Sketch 1. The tactical situation. The 3d Battalion's mission was to screen the 25th Division's move into a defensive sector. The battalion moved from a position 7½ miles south of the area.

pany faced the most difficult problem, since it had some 2½ tons of ammunition for its crew-served weapons as well as the weapons themselves. The S4 had calculated the weights and, to ease the burden on M Company, had distributed some of its ammunition to the rifle companies. The latter, which preceded M Company in flight, were to stack the ammunition in piles where crews could gather it after they arrived. The weight of some weapons still could not be equitably distributed, and some men from Mike carried up to 90 pounds. The entire company had to be placed late in the movement in order that the helicopters' gasoline load would be partially lightened from expenditure.

THE marshalling area contained four heliports, and for each there was an assembly area and loading station. There was an officer, designated as Embarkation Control Officer (ECO), who from a vantage point was connected by telephone to each assembly area. This provided him with the flexibility and certainty of control he required to manage the operation. If (and this happened) the flow was disrupted at any one port, or if one assembly area cleared before the others, the ECO could direct troops to move from a lagging area to the clearer one in order to maintain even distribution and flow.

In each assembly area the senior officer present was in charge, regardless of the troop disposition within the area. He had phone connections to the loading station, where there were a non-commissioned officer and two guides. Each loading station was required to

keep a load of personnel in it at all times, and the NCO merely telephoned his requirements to the assembly area. The noise of helicopters made shouting useless. The officer in the assembly area knew in what order personnel were to depart, and by proper stacking he simplified his task and could readily dispatch the next load on call. The guides were on hand to lead loads out to the ships via safe lanes that avoided the dangerous stabilizing propellers.

When all the troops had been cleared from an assembly area, and upon word from the ECO, the control group reeled in its wire toward the station and boarded the last helicopter to come into that particular port. This was an unusual procedure, since units do not normally marshal themselves from an area. It proved very satisfactory in this case, however, and it was repeated for the return trip in an equally efficient manner.

The chart below shows how the troops were distributed in the four assembly areas. It should be noted that the plane numbers indicated merely show sequence. There were no chalk numbers fixed on the planes, because so many things could have happened to interrupt the flight of any given ship.

Area A — Planes 1—5: K Company
6—29: L " "
30 : Control Group

Area B — Planes 1—5: K Company
6—10: L " "
11—29: M " "
30 : Control Group

Area C — Planes 1—5: K Company
6—29: I " "
30 : Control Group

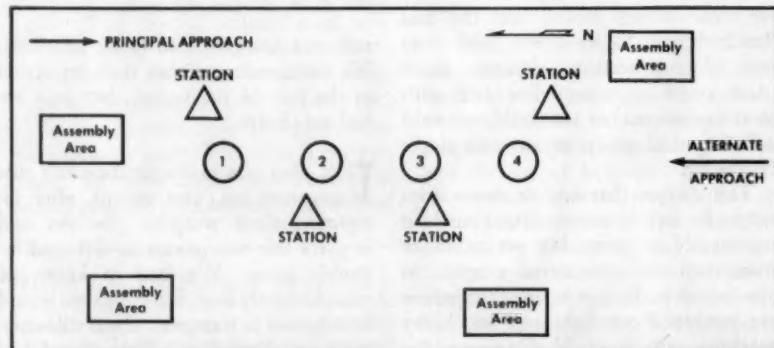
Area D — Planes 1—5: K Company
6—10: I " "
11—19: Hq " "
20—29: K " "
30 : Control Group

As can be seen, this system would work properly only if the feeder plan for the ships themselves were successful. We required that four ships land simultaneously, load, and take off at the same time. Each of the 20 ships would make 30 trips. To regulate the flow of helicopters into the ports, the Transportation Battalion supplied a ground-control unit that was in radio contact with each ship. It was the controller's job to see that no one port got farther behind in its out-loading than the others. Some of the breakdowns in this system will be discussed later.

The final link in the loading and flying plan having been completed, we had but to train and make a dry-run. We were provided with five helicopters on the day before the exercise so that we could teach the troops the seating plan and the safety factors to be followed.

THE day of the exercise was clear and dry, and the exercise was an interesting spectacle. What could be seen of it, that is. We had anticipated some dust in our dried-up rice-paddy field, but we made extensive use of the Division's watering truck both before and during the lift. Despite these precautions, dust was a problem. For the first time in two weeks the wind took a notion not to blow, and dust clouds would not dissipate. One port was declared temporarily unsafe until we had re-watered it, an operation that required about ten minutes of precious time. This was one of the unforeseen "bugs" in the control system, even though in itself it did not invalidate the system. Dust did stop about six trips from the one port, but fortunately not until we had dispatched the entire security elements of K Company. But there were other delays.

At one port, one of the men from M Company fell while moving to his ship. He was so heavily laden that he could



Sketch 2. The layout of assembly area, loading stations, and heliports. Note that the helicopter did not have to fly over the heads of the troops.

not recover by himself, and the men already in the ship had to unload and help him in. This delay of some thirty seconds beyond normal loading time was enough to allow the other three ships to clear the area, and the pattern again was disrupted. Still later, one ship developed engine trouble and was forced out of action, knocking out one of the groups of four. The only other incident worth mentioning was the failure of the radio of one of the ships. The pilot then had to guess where he was supposed to land. Suffice it to say that he did not always guess correctly.

Despite these intrusions on our plans, the flexibility of the system itself provided the cushion needed for recovery from all temporary disruptions. It was more than apparent that every phase of the operation had been carefully learned by every man in the battalion. The highlight of the entire exercise, in my opinion, was the high state of enthusiasm shown by all of the men and officers. Not one man balked at the idea of flying in these contrivances, and some of those necessarily left behind wished that some of the principals would break their legs and need replacements. Fortunately, however, there was not a single injury during the double move of 600 men—a tribute to the planning and execution of the exercise by both the Infantry and the Transportation Battalions. It was a job very well done.

SUMMARIES are oftentimes anti-climactic, but there are times when reiteration of salient points is effective.

As I stated at the outset, too many artificial assumptions and conditions had to be made to allow a workable exercise. The limitations imposed by approaches and downdrafts prevented our testing in our prepared defense sector, and our hills were far from the worst in Korea. The test was unrealistic, and I do not believe that helicopters could have been used satisfactorily in the mission under actual combat conditions.

We learned, during development of the plans, that the optimum flying distance for these machines, when they must make several trips each, was about thirty minutes. But we still needed over two hours to move an understrength battalion in less than a twenty-minute turnaround. Trucks could have done the job more satisfactorily and, above all, would have given us the use of the mass which we sacrificed so completely during the move.

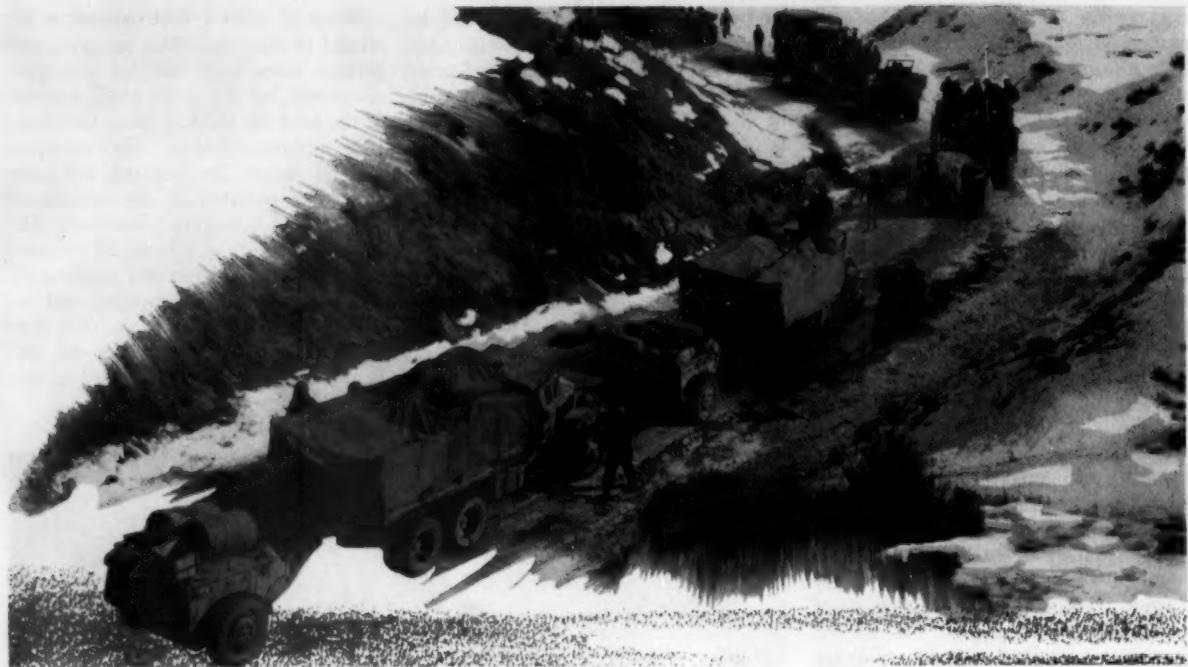
Finally, if the enemy has air superiority, or even if he has only the capability of a few successful sorties, a mass move

by helicopter may well be doomed to failure. The noise of these ships cannot be kept secret, and if coupled with a dust cloud such as we had there would be no doubt about what was happening. It is true that vehicles make noise and stir up dust, but vehicles and personnel can stop and disperse. A helicopter, once airborne, is a slow vehicle with no place to go but down. The hunters of war are not so sportsmanlike that they wouldn't shoot down choppers like so many sitting ducks. During the exercise it was evident even to a novice that one high- or low-speed aircraft could have seriously crippled the entire battalion.

None of what I have written is intended to deny that there are great and perhaps unexplored uses for helicopter movement, but not in the small segment of the field we tried. I have, therefore, two recommendations. An extensive manual should be prepared and published for guidance in the operational planning of helicopter movements. Using that manual as a basis, all infantry units should be given the opportunity to participate in the planning and execution of such a move so that they can determine for themselves the difficulties and intricacies involved in this form of transportation.



A 57mm recoilless rifle is swiftly unloaded at the airhead



OVER THE ROAD

To Pool Or Not to Pool

... Organic Vehicles

CAPTAIN AVERY E. KOLB

THEY'RE feudin', fightin' and fussin' again over the merits of taking some organic vehicles away from combat units and pooling them on the division level.

It's an old and always lively feud between the proponents of mobility and economy. They've fussed over it many times in the past, but they never seem to

As a civilian employee in the Office of the Chief of Transportation, CAPTAIN AVERY E. KOLB, Transportation Corps, USAR, is in a position to keep our readers posted on developments in motor transportation. He does this very well, not only because of his proximity to his subject matter but because he has a nose for news and can scent out a story hidden in reams of official reportage.

reach an agreeable compromise.

The latest encounter began last year when General Maxwell D. Taylor ordered a series of transportation tests to be conducted by the Eighth Army. Preliminary results were so impressive that Eighth Army continued the tests. ACoS, G3 is in on it and so is OCAFF and the service schools. It's coming up in scheduled maneuvers and in Europe the 43d Division tested it.

General Taylor's tests grew out of earlier combat actions in Korea. From the time in July 1950 when the 24th Division got itself "road blocked" at Taejon, and subsequently as reports of "vehicle ambushes" and "road-bound columns" were received almost daily

from the fronts, planning staffs had posed a serious question on troop mobility: *were our forces being immobilized by their own transport vehicles?*

Faced with the bewildering paradox of having an abundance of vehicles and little transportation capability, the combat commanders resorted to their own devices. At first many vehicles were abandoned and troops took to foot. Later some vehicles were pooled and formed into provisional truck units. The Eighth Army continued the practice on a limited scale throughout most of the campaign. Then, in early 1953, General Taylor sought to formalize this experience in two carefully developed transportation tests.

In the 2d Division test a large number of organic vehicles were withdrawn and a Transportation Truck Battalion was added to the division. In the 45th Division test, organic vehicles were organized into regimental pools and placed under the operational control of the Division Transportation Officer. Results of both tests were striking—indicating that a fifth to a third of organic vehicles could be eliminated from the division without reducing over-all mobility and effectiveness. Combat commanders at all levels agreed that substantial economies had been achieved; but many of their comments reflected the sentiment: "For God's sake don't let this happen."

With rare objectivity and fairness, the Eighth Army forwarded its complete findings and comments of commanders up and down the line. General Taylor felt that his original contention had been borne out. But he conceded that the Korean situation was not one on which to base a final conclusion, and recommended that similar tests be undertaken in other theaters.

MORE than a decade ago the War Department was concerned with economy and greater utilization of motor transport in the infantry division. During field exercises for the reorganization of the division from 1937 to 1939 motor transport was one of the items given special attention.

As a result of the lessons of these exercises the late General Lesley J. McNair recommended streamlined combat units which would be limited to transport equipment required for quick, decisive action. Vehicles needed only occasionally by the units would be pooled at higher headquarters and kept under constant commitment to the most urgent missions.

But McNair found he was up against something as big as custom. And with a war on, economy took a back seat to the demand of commanders for command integrity and organizational self-sufficiency. In 1942 General George C. Marshall wrote that he felt division transportation was extravagant and "represented what the commanders asked for rather than over-all requirements." McNair agreed and attributed the excesses "to chiefs of arms and services seeking heavily and thinking narrowly, to field commanders who seek to make their units too self-contained, and to an over-indulgent War Department."

Proposed revisions in the infantry division in 1943 would have reduced organic vehicles to approximately 450. But when this news reached active theaters, com-

manders set up a howl. Even General Eisenhower objected to a major shuffle in division transport at such a critical time. The proposed reductions were not made.

ARGUMENTS pro and con in the matter of transportation pooling have parallels in all arguments involving "the pooling principle." Pooling is something almost anyone will agree is good—for the other fellow.

There is nothing which pleases the higher commander so much, nor galls the subordinate commander more, than the mere mention of pooling. Whether it involves typewriters, special weapons, or trucks, the higher commander sees in pooling the answer to his wish for finger tip control, coordination of effort, and economy of means. The subordinate commander, on the other hand, sees pooling as an evil designed to take away his most valued possessions—his command prerogative and the integrity of his unit. And it is not unusual that the commander who fights hardest against pooling at a higher level is the first to force it on subordinate units within his own command.

Whether you agree or disagree with the pooling idea depends, to a great extent, on where you happen to be sitting and the direction you happen to be facing at the time.

Perhaps in this as in most things the answer lies somewhere between the two extremes. It is a tribute to their objectivity that neither McNair, Marshall, nor Taylor advocated *complete* transportation pooling. Nor has anyone sought to deny the tactical commander what he requires to achieve his mission. Differences of opinion have been entirely over the *degree* to which pooling should be applied and the *manner* in which transportation service could be best furnished.

THE first "Truck Battalion Test, Korea" was conducted by the 2d Infantry Division between 18 May and 16 August 1953. The 69th Transportation Truck Battalion, consisting of three truck companies with a total of 180 cargo trucks, was attached to the 2d Division for the test. At that time a compensating number of organic vehicles (192) were withdrawn. Additional vehicles were withdrawn from the division as the test progressed and the ability of the truck battalion was demonstrated. The maximum number withdrawn reached 425 before the battalion began to feel the pinch.

The 90-day period covered phases during which the division was in reserve

(56 days); in combat on a defensive position (15 days); and withdrawing to new defense line (19 days). Division artillery and the tank battalion were engaged during the entire 90 days. One regiment was committed to combat 27 days. Throughout the test the majority of all cargo transport was furnished by the truck battalion. Even so, there remained some unused truck capability except when the division was called upon to furnish ammo transport to army during limited periods of heavy fighting. Generally, truck requirements were less during combat than when the division was in reserve.

The division reported that when a truck battalion of 180 task vehicles was attached, 334 trucks could be safely withdrawn. This is a net saving of 154. Based on the price of an M211 truck with one year's supply of spare parts (\$9,975.00) this saving in dollars amounted to \$1,536,150. Were this extended to existing Army divisions worldwide, savings in vehicle costs alone might be more than twenty million dollars.

Manpower savings were not fully evaluated. The division stated that when 334 vehicles were removed only 447 men were withdrawn. But this ratio of personnel to vehicles withdrawn (1.3 to 1) did not take into consideration other man-hour savings in vehicle repair and service, nor the additional man-hours provided units by relieving men of what had been dual MOS functions.

The fact that there was an excess mobility during the test led to the belief that even further savings might be possible, and Eighth Army recommendation for further tests was partly based on the belief that it might be possible to determine the minimum rather than an optimum number of cargo vehicles for divisions.

By and large, division staff was pleased with the results of the test. Regimental commanders, understandably, preferred to keep control of their vehicles. Corps commanders were of mixed opinions and felt some compromise or alternate solution might be worked out.

THE second test was conducted by the 45th Division. It got off on a different footing from the 2d Division's test because X Corps proposed and got approved an alternate plan.

Truck platoons were organized below division level—three per service company in regiment, two in the tank battalion, and four in the Quartermaster company. These platoons were "housed" in their home units but were under the operational control of the Division Trans-

The Pros and Cons Exchange Views

In adjoining columns below, statements extracted from comments of various commanders engaged in the tests are arranged to indicate the general tenor of arguments on both sides of the question.

The number of vehicles presently authorized in the infantry division may be considerably reduced if the cargo trucks are pooled and centrally controlled.

There are too many organic vehicles in the present infantry regiment. This places demands on the time of the tactical commander for administrative action which could be better devoted to training and operations.

A vehicle, like a gun, is not contributing to the destruction of the enemy when it is in reserve. It has been a well-established fact for many years that the most effective use of transportation is through pooling.

As a result of combat operations in Korea it is apparent that the infantry division has many more cargo vehicles than are required and that the control of such vehicles is dissipated throughout the division.

The flexibility of the division is increased by centralized control since all cargo transportation can be readily utilized to accomplish the predominant mission existing at the time.

However, there are compensations and improvisations which experience and training could provide. For example, restoration of the lost art of shuttling.

The elimination of excess cargo vehicles will reduce the personnel and matériel required to support these vehicles, thus implementing practical economy measures.

Firepower in the division is effectively and centrally controlled by the division commander through his artillery commander. Engineer support is effectively controlled for the commander by the division engineer. It follows that there is a possibility of improving logistical support and mobility by centralizing some of the organic vehicles of the division in a battalion organization under a division transportation officer.

A T/O&E Transportation Truck Battalion is a logistical type unit to perform the mission of supplying the general cargo transport for a division.

The economies which are possible Army-wide are of such magnitude as to make desirable a re-examination of the basic doctrines of the infantry division in the field of mobility.

The centralization of transport reduces the ability of the battalion commanders and the regimental commanders to carry out their tactical mission with the speed and assurance that is provided by organic transportation.

The units of a division have already been squeezed dry of all equipment and personnel which do not contribute to over-all killing power of the division.

The present allocation of vehicles and personnel has been determined as a minimum allotment necessary to support and operate the division in general combat operations.

Combat operations in Korea have emphasized again the great importance of tactical flexibility at battalion and regimental levels.

The pooling principle could deprive other units of transportation, while the main effort is being supported.

But this imposes a serious maintenance threat, as the vehicles present are forced to remain on the road continually without benefit of rotation and proper maintenance.

Command control of transportation (as well as other military means) and resultant operational efficiency is worth much more than the incidental economy resulting from a centralized transportation system in the division.

The present system of pooling of motor vehicles at all levels under the existing T/O&E provides an effective and efficient means to centralize transportation when so required.

The introduction of a division transportation truck battalion would require a change in the fundamental concept for the operation and support of the infantry division.

The tests were inconclusive.

portation Officer. Division artillery did not participate in the test.

Upon the completion of reorganization, vehicles determined to be excess were administratively parked and taken out of use. Although only 99 vehicles were taken out of use, this really represented some 106 vehicles because the division was short about seven vehicles.

The test covered a 90-day period beginning in late August and ending in November. During this time the division was in a static, non-combat situation. However, winter supply and construction requirements caused an unusually heavy transportation load.

Reports submitted at 30-day intervals indicate that "all division transportation requirements were successfully met." Regimental commanders without exception were pleased with the success of the exercise, but the artillery commander, looking on as an observer, decided it would not have worked for him. At the end of the last period the division concluded that "this test has proved that centralized control and pooling of transportation has provided greater flexibility . . . increased mobility of subordinate units . . . and more efficient utilization of general purpose vehicles." However, the test was not conclusive because of the nature of the division mission at the time, and because artillery was not included.

WHEN any proposition is so clearly split down the middle as this, the chances of compromise become less likely. Prejudice swings the pendulum from one side to the other, seldom pausing at the halfway mark. And having swung so far to the side of total organic mobility in the past, it will not be surprising to see it cling there. Or go the other direction all the way.

The tactical unit commander, upon whom the ultimate benefits or grief will fall, might buy the pooling idea if he could be sure he would get the transportation he needs at the place and time he needs it. After all, his main concern is with what's in front of him. But there is little by way of past experience upon which he can base such faith in others to provide his essential mobility.

The Transportation Corps, last of the technical services to secure troop representation in combat divisions, also stood to gain or lose by the ultimate decision. Silently, and with fingers crossed, the Corps stood by to await results, confident that were it given the opportunity it had the know-how, the people, and the organization to give the tactical commander the kind of service he expects.

Here's Why, Sergeant Bowles

(Continued from Cover 2)

Why don't they issue OVM books with tanks and other vehicles that have a large number of OVM items? This way you could tell what you received with the vehicle, and what was turned in. It should always be with the vehicle.

Why don't they have a special stock record card for unserviceable property accounts, one that would have columns to show the accountable officer what is in the shop, what is in the laundry, and what is on hand at all times?

Why don't they drop all mess personnel and equipment from line company T/O&Es and form such personnel and equipment as a Mess Platoon in the Headquarters and Service Company?

Why don't they have a pin-on type rank insignia for enlisted men? Think of the sore thumbs and cussing this would save.

Why don't they have a system where organizational clothing and equipment would be set up in sets and marked with the company letter and set number instead of the individual laundry marks? This type equipment passes hands several times during its service. And it's hard to re-mark some of it.

Why don't they issue a Table of Allowances to show the number of tools authorized for so many vehicles instead of issuing tool sets? This would make for better accounting of tools.

Why don't they do away with the hash marks and overseas bars? A guy who gets all that stuff sewed on looks like a walking mass of stripes.

Why don't they let enlisted men use the ID card as identification while on pass in place of the Class "A" pass? Think of the typing, signatures, and paper this would save.

The Ordnance Corps ships with each vehicle a Type 7 SNL catalog listing items of OVM applicable to that vehicle, a packing list showing the Ordnance 7 items shipped and a technical manual showing the application of each item. Property accounting regulations require maintenance of records of vehicles and OVM, by item, in the Company Property Book; thus, this book affords a suitable record of property turned in.

The Department of the Army system for ready identification as to location of unserviceable items is as follows: "When supplies are determined to be repairable by a classification officer or repair shop at the station the supplies will be recorded on the accountable station supply officer's unserviceable property record and the supplies forwarded on a hand receipt to the shop for repair and return. When repaired and returned, the supplies will be transferred from the unserviceable property record to the regular stock record account by the use of turn-in slips." This method shows where unserviceable items are located with a minimum of record-keeping.

This proposal was included in a recent study by the Office, Chief of Army Field Forces Committee to determine areas in which personnel savings could be made in the active Army. The proposal was rejected for the following reasons: (1) Implementing this area of savings would have a serious effect upon units during combat operations and would not be feasible in many units which are normally widely dispersed. (2) The mess facilities of most installations would require modification to adequately provide for battalion size messes. This question is being reconsidered. The feasibility of using consolidated messes during combat operations will be field tested during the division exercises that are to be conducted next spring.

The matter of the use of detachable enlisted insignia is presently under study. This study is primarily concerned with the need for insignia suited to direct exchange of garments in the combat zone and the use of organizational garments such as medical whites, cooks' whites, etc. The use of the traditional sew-on chevrons is considered particularly appropriate for those garments that will remain permanently with the individual. The comment relative to sore thumbs is not considered valid.

Those items affected by this suggestion, if adopted, are the very ones that should be returned to the individual after cleaning (for example the coat, field). The use of company numbers would not result in any significant change in markings required nor contribute to the lessening of administrative workload in the units.

The components of Ordnance tool sets are listed in J series SNLs. Inclusion of line items comprising tool sets in T/A's would result in such a voluminous publication that the intent of a T/A would be defeated. However, where complete tool sets are not required, individual tools are shown in lieu thereof of the respective T/A.

One of the approved principles governing the Army uniform is: "Ornamentation of the Army uniform should be carefully reviewed and those trimmings that detract from the concept of a distinctive and dignified uniform should be eliminated." This review is currently in progress and will specifically encompass the above suggestion.

ID cards are issued for the sole purpose of identification of the individual. Possession of this card in no way indicates that the bearer has authority to be absent from his place of duty. The ID card is issued to all individuals whereas only a select group are authorized class A passes. The commander responsible for issuing passes would lose all control if such a suggestion were adopted.

THE MONTH'S READING

Mobility

SECRETARY OF THE ARMY ROBERT T. STEVENS
Address at St. Louis, Mo.

If our Army forces are to achieve maximum mobility it is essential that we have the capability of quickly transporting them and their equipment long distances by air. Extensive planning and intensive training have carried us far along the road toward that goal. Our airborne troops have reached a high degree of effectiveness. Progress has also been made in developing techniques and procedures for aerial delivery of military loads far beyond that believed possible in World War II. In addition, assault type aircraft have been developed which are capable of air-landing our combat troops without the benefit of prepared air strips or runways. This progress has placed our Army on the threshold of a degree of strategic and battlefield mobility unparalleled in military history. I use the word "threshold" advisedly because these great advances have given us a tremendous potential rather than great actual capability today. In some cases we are barred from crossing the threshold because the necessary amounts and types of aircraft are not presently available. Of course, this is an inter-Service problem on which we are constructively working with the Air Force.

Germs of a War

SIDNEY BRADSHAW FAY
The Origins of the World War
The Macmillan Company, 1937

No less important would be the analysis of that complex force which first began to be a powerful, disruptive agency during the French Revolution, and which steadily gathered strength for a century and a quarter, which we call "nationalism." This in turn is closely bound up with psychological and political questions of race, religion, democracy, education, and popular prejudice. Still more important, in many minds, as underlying causes of [World War I] are the intricate political and economic problems which have arisen from the transformation of society during the past hundred years by the modern industrial system which began in England and subsequently penetrated more or less all the great countries of the world—problems of excess population, food supply, foreign markets and raw materials, colonial possessions, and the accumulation of capital seeking investment abroad. Finally, the influence of the newspaper press is a

factor much greater than commonly supposed in causing [World War I]. For decades it fed the constant undercurrents of irritation of one country against another, and by its clamor and misrepresentations often made difficult or impossible the peaceful settlement of sources of conflict. How far government officials controlled newspaper opinion, and how far they themselves were hampered in their freedom of action by it, is a subject which greatly needs further careful historical investigation. Obviously, no single volume can hope to deal thoroughly with all these complex and interrelated factors which constitute the underlying causes of [World War I]. They may be conveniently grouped under five heads: (a) the system of secret alliances; (b) militarism; (c) nationalism; (d) economic imperialism; and (e) newspaper press.

Atomic Survival

Bulletin of the Atomic Scientists
September 1954

The admonition "When you strike at a king, you strike to kill," has obviously been adopted by our nation's civil defense planners. It bears out the conclusions reached by Project East River.

It is the knock-out nature of a nuclear attack which makes the A-bomb such a revolutionary weapon. Any doubt which anyone had about the striking power of the A-bomb dissolves into thin air when one considers the awesome proportions of thermonuclear weapons effects.

While Federal Civil Defense Administration assumes the possibility of an initial devastating blitz, other government agencies have been slow to wake up to its terrifying significance. A lightning blow coming out of the blue completely invalidates all of America's mobilization concepts as applied in the past two world wars. The Military Establishment is faced with the prospect of fighting out of inventory.

Should the United States be subjected to the smashing impact of a nuclear blitz upon its heartland, it would find itself face to face with the problem of sheer survival. Suddenly everything might become reduced to personal elements—food, shelter, and medical attention. All else would be secondary and almost irrelevant. Our Strategic Air Command, if its bases were operable, might pound the Soviet homeland with hundreds and even thousands of nu-

clear weapons but the sorest need would focus upon the critical condition of the home base. There is some indication, albeit rather indirect, that some government officials are beginning to be aware of the huge liability present in the vulnerability of our home base. More and more, high policy will have to consider this weakest link in our national security.

Guerrillas and Communism

IRWIN R. BLACKER (Editor)
Irregulars, Partisans, Guerrillas
Simon & Schuster, 1954

The contemporary implications of guerrilla warfare are tremendous. The Communists have long recognized its value. Marx, Engels, Lenin, and Stalin all studied and wrote about it. The clandestine mind, the small cell structure, the absolute discipline, and Russia as a base for supplies and haven in the event of defeat have made the Communist guerrilla a dangerous force in the world. Ruthless in his disregard of reprisals against civilian populations and having nothing in the way of property to lose, he has not hesitated to take the field when assured of a sympathetic, neutral, or vacillating civilian population. By the close of World War II arms in great quantity had been dropped into Europe. Less than twenty percent of these have been turned in to the governments where Communist partisans operated. Thus an armed and organized guerrilla force of large size is prepared to fight in any European war.

In the Far East the Chinese have emigrated in great numbers into almost every country of Asia, taking with them their own secret societies, of which the Communist is the largest and best organized. And no group in history has utilized guerrilla warfare as effectively as Mao Tse-tung's Chinese Communists.

However, in the past, guerrilla warfare has been an instrument in the fight for freedom against tyranny and occupation. The people of the satellite countries of Europe and Asia, if given intelligent guidance and adequate arms, may turn in guerrilla action against the Communists.

Starch in the Jungle

COL. R. W. VOLCKMANN
We Remained
W. W. Norton & Co., 1954

Sixth Army Headquarters turned out to be on the exact spot where I had started the war with the 11th Infantry over three years before. I reported to Colonel Frank Rewalee, and after turning my reports over to him I asked if I might clean up a bit. After a shower and shave I put on a freshly-starched uniform I had brought along for the occasion. The uniform was handmade by a Chinese tailor, from some Australian cloth that had been sent in to us by submarine. Frank's mouth dropped open; "First damned starched uniform I've seen in the Southwest Pacific for months!" he exclaimed. I explained that I had served under General Krueger before and remembered what a stickler he

was for appearance, so I had come prepared. "Yeah," Frank replied, "but what an example to set, and after being stranded on this island for over three years to boot!"

After meeting General Eddleman (G-3), Colonel White (G-2), and General Decker, Deputy Commander, I was taken to General Krueger's office. I turned out my smartest salute and shook hands with the General, wondering all the time whether he remembered me as the lieutenant who had served under him years before. I didn't have long to wonder, for the first thing he said was: "Well, Volckmann, did your two years in the 2nd Division do you any good?" I was taken quite by surprise, but managed to get out a very emphatic, "Yes, sir!"

Soldiers and Scientists

THEODORE H. WHITE
The Reporter
23 September 1954

Science and war have been partners since the beginning of history—or at least since Archimedes was chief consultant at the siege of Syracuse. But the partnership of U.S. science and defense since the war has created peculiar problems.

In a large sense, our military tradition has been blessed in having known no Clausewitzes, no Napoleons, no Douchets. Long on riflemen, artillery, and logistics, it has been short on theorists of war. With the exception of a few oddities such as Admiral Alfred T. Mahan and General George Patton (an intellectual of combat in spite of his pistol-packing flamboyance), the senior soldiers and sailors of America have been stolidly unfascinated by the fancies of master military intellects. They have been pragmatists, craftsmen at combat, rarely absorbed as scholars by the higher relations of strategy, policy, and society. Ours has been a sound but unintellectual defense tradition.

Like American scientists of an earlier age, the American soldier reflected an American system of education whose chief concern was with technique, how to make things work. Down to a much later period than the scientists, the soldiers were unprepared to ask the fundamental questions of their craft.

Into this vacuum at the end of the war moved the scientists, dangling weapons and models of weapons yet to come that would revolutionize combat, and promising further sweeping changes. But they came not like the previous purveyors of ordnance, with merely a better gun, a better ship, or a better plane. They came with ideas about how to use the weapons. Some were naïve, some were arrogant; collectively, however, they carried with them the ferment of new strategies, even new philosophies, of combat.

The military, scarcely understanding some of the instruments but vaguely aware that in this new magnitude of weapons new instruction should be sought, set up about themselves diffuse constellations of panels, consultant committees, and advisory boards staffed with as many brilliant scientists as they could find. "Some of the guys at the Pentagon," said one observer, "went around collecting scientists like butterflies—they all wanted the flashiest collection of brains for their branch."

Two branches with two missions, Field and Antiaircraft Artillery, were integrated. The result: lower standards of training, wasted time, effort, money, real estate, ammunition, and personnel.

It Seemed Like A Good Idea

COLONEL ROBERT F. HALLOCK

THE attempt to integrate field and antiaircraft artillery was an illogical and unnecessary step, but there is no need to worry now about the single arm with one collar insignia. At the same time, we must avoid the great waste involved in trying to train all artillery officers for all artillery specialties. Before the mists of antiquity close in, let's see how they became integrated, how it has worked, and what we ought to do now.

In World War II it became SOP to attach to each division one AAA automatic weapons battalion for air and ground defense and support of ground offense. This battalion needed a supervisory headquarters, and so, for want of a better solution, it was assigned to the division artillery headquarters.

This setup caused no particular trouble. Meanwhile, corps artillery headquarters came into existence. They found that they had divisional AAA units under their supervision and then began using AAA gun units effectively in the field artillery role. This led to the concept of corps antiaircraft artillery, and such units appeared in OCAFF's post-war document, "Type Field Army."

Since it had now been established, at least to the satisfaction of some, that division artillery and corps artillery headquarters must command both field and antiaircraft artillery units, a comparable army artillery headquarters seemed to

be required. This organization also appeared in the "Type Field Army."

About this time guided missile work began to show great promise. If a missile could be made to hit an aircraft in flight, it looked as if it should be simple to make it hit a fixed target or even a moving terrestrial or waterborne target. Maybe this would be the all-purpose artillery weapon!

Shortly after World War II there was great pressure to save personnel and funds and to release unnecessary real estate. The artillery part of the solution appeared obvious. Since these two artillery arms were inextricably intertwined anyway, why not make them into one? Combine the two schools and save great quantities of time, people, effort, and money.

And the clincher was the specious question, "They both shoot cannon, don't they?"

DEPLOYMENT of automatic weapons for air defense requires judgment and both tactical and technical skill; but the real key to their effectiveness lies in the practiced hands, eyes, and nerves of the members of the gun squads. In the surface role, these weapons are

in the same category as machine guns, recoilless rifles, and mortars. We had machine gun battalions in World War I. It is time that AAA automatic weapons follow the path of these early machine guns and be issued as individual weapons to units that need them for fire against air or surface targets.

There is no need for corps antiaircraft units. Enemy aircraft crews are unimpressed by our corps boundaries. Air defense must be organized to protect targets in areas of great depth and width, and the job is best done at army or higher echelons.

Nor is there any need for an army field-and-antiaircraft artillery headquarters or an army field artillery headquarters. Army antiaircraft units work under brigade command. When used in the surface role, they are either attached to an appropriate headquarters or, more likely, are assigned a mission of support or reinforcement. The best excuse for an army field artillery headquarters is the existence of the Corporal battalion. But the Corporal's great range is built in to permit it to reach the enemy's rear areas, not to permit it to be placed in our rear areas. The corps has the necessary survey, communication, and

command structure to handle the Corporal; and in the face of the threat of guerrilla warfare, a position in the corps zone may well be the most secure. Determination of targets for the Corporal is comparable to determination of targets for tactical air forces and should be done at JOC. A good solution is to attach the battalion to corps and to retain any necessary elements of control at army headquarters. Similar comments apply to the 280mm gun battalions.

COLONEL ROBERT F. HALLOCK, Artillery, has been intimately concerned with both artillery arms since 1946. He writes: "I haven't met a working artilleryman for the past four years who disagreed with these opinions." He is a 1923 graduate of the Military Academy.



Other field artillery units, including Honest John, remain directly under army command only briefly, in transit to or from corps or while re-training or re-equipping. They get necessary supervision from the army field artillery staff section.

Guided missiles fall into two distinct types: the surface-to-surface missile and the surface-to-air missile. There are major differences in their structures, warheads, guidance systems, and many other features. Of course the SAM can be used against terrestrial targets, but the problem of control is not as simple as it appears. Such use generally is inefficient and wasteful, and should be considered an emergency measure only.

HAVE we saved time, effort, personnel, troops, matériel, ammunition, real estate, or money? In general the answers are negative. Dual training has imposed heavy extra costs. The schools at Fort Sill and Fort Bliss still exist and both are having a hard time expanding rapidly enough to keep up with their jobs. Both need more acreage, personnel, buildings, and ammunition. Finding antiaircraft units for Fort Sill and field artillery units for Fort Bliss as school troops has been a continual problem. It is axiomatic that no officer is ever as expert in his duties as he would like to be, and that the more subjects he must know the less complete his knowledge will be in any one. The recent Army Field Forces study on "The Enlisted MOS Structure of the Army" stressed the need to define narrowly and precisely the area of training required of each soldier to avoid the waste of over-training. Yet now we require officers to attempt to cope with two lifetime professions.

Have we increased battlefield effectiveness? Again, on the record to date, the answer is no. In spite of great effort by many agencies at all levels for some eight years to accomplish field artillery training of antiaircraft officers and vice versa, and to give dual training to new officers, we still have few officers who are trained to an acceptable degree in both subjects. It is self-evident that officers who have only a smattering of knowledge of the business of an artillery battalion, field or antiaircraft, should not be assigned important duties therein during a tough fight; yet such officers were assigned to units repeatedly during the Korean war. Objections were met with comments like, "They're all artillerymen now.

"They're supposed to know their jobs." It is not melodramatic to state that use of such officers cost lives—sometimes their own, often others'.

THE Army is organized by branches. Each branch is established to perform a necessary basic function. Obviously there are many techniques and equipments which are common to several or all branches. For example, cannon are used by various branches as well as other services. The question is: what are the basic missions to be performed and what does it take to get them done?

The antiaircraftsman must keep his attention focused overhead. He must know the enemy air force, its strength, location, composition, characteristics, identification, techniques, and capabilities, both present and future. He must work intimately with the friendly air force and know it in even more detail, to include its plans and operations. Except for his own local protection, his only interest in other nearby friendly forces is their priority for commitment of his air defense means.

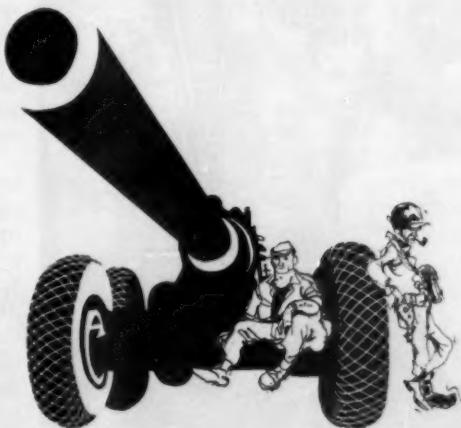
The field artilleryman must concentrate his attention on the infantry and armor he supports and what's in front of them. He must immerse himself in their problems. He must know them and their situation and plans intimately, in the greatest detail and up to the minute. He must foresee what they are going to be up against in the future. He must know the enemy in his front and adjacent areas, and must be unrelenting in his search for surface targets.

What is our mission? Here is the meat of the whole matter. How often we have heard the old rule, "You may forget your best friend, your name, or anything else, but never forget your mission." And it was never "missions." To train people to turn handwheels

and angles, to set dials and frequencies, to make mathematical computations, to issue proper orders, and to maintain and operate all the other complex machinery of an artillery unit requires time and attention, but it does not constitute fulfillment of an artillery mission. These things are mechanical, or at best a science. There remain the arts of artillery warfare, which can be learned only by long experience and which can be summarized only in statements of the artillery missions. Try to prepare a single statement of the mission of the field-and-antiaircraft artillery! If the artilleryman has not forgotten his mission, certainly his attention to it has been diluted by the assignment of a second, incompatible one.

ONE other situation is worth examination. As the air battle in World War II swung in our favor, certain antiaircraft artillery and other units were converted and retrained as effective field artillery units. This experience may seem to support the need for cross-training of field and antiaircraft artillery officers. It would be nice if everybody knew everything, but where shall we draw the line? Antiaircraft artillery units were also converted to units of various other branches. Infantrymen too were urgently needed. Who can say that in the next war we may not face an urgent and sudden need for more armor, helicopter, truck, engineer or signal units and fewer of something else than we had planned? We must plan for the future as accurately as is humanly possible and as resources permit, and meet unforeseen contingencies as they arise. Fortunately there is always a reservoir of branch-trained officers in branch-immortal assignments, and surplus branch-trained officers can likewise be used to fill such jobs.

FIELD ARTILLERY officers must be thoroughly and completely trained for their duties, and antiaircraft officers for theirs. All officers should be familiar with both specialties, as they are with other branches. "This is "nice-to-know" training, and should be done as opportunity permits. As individual officers now attend schools of other branches and are detailed for duty in branches other than their own, so selected artillery officers should be cross-trained for special future assignments. Individual records must continue to show specific qualifications, and assignments must be based thereon.



... Only a well trained leader could keep a patrol on its toes every second. The penalty for inattention to details of training was likely to be death in a guerrilla ambush . . .

Huk Hunting

LIEUTENANT COLONEL LUIS A. VILLA-REAL

LIBERATION from the Japanese and the establishment of the Republic were glorious events that made the year 1946 one of bright promise for Filipinos. While some of that promise has been realized in the eight years that have passed, it was long delayed and obstructed by an armed Communist conspiracy that terrorized and divided the people, and threatened the stability of the young republic.

Early in the Japanese occupation the

Socialists and Communists formed a coalition to lead guerrilla resistance against the invader. Jap-sniping became a patriotic duty and almost every Filipino was or wanted to be a guerrilla. A rifle and ammunition were treasures hidden carefully until an opportunity arose to use them against the Japanese.

Led by Luis Taruc, the Communists soon wrested the coalition leadership from the Socialists, following which they sought to gain control of all anti-Japanese

guerrilla groups. By the middle of 1943 the Hukbalahaps (People's Army Fighting the Japanese), or Huks as they called themselves, actually were fighting openly against guerrilla groups not under Communist control. This internal warfare seriously weakened the overall guerrilla effort against the Japanese on Luzon.

After the liberation, the Communists began to exploit post-war poverty and economic troubles, especially in the farming areas. For purposes of agitation and propaganda, the Communists pointed up the serious shortages of seed, draft animals, and farm implements.

Before long the Hukbong Magpapala ng Bayan (People's Liberation Army), or the HMBs, as they now renamed their military organization, were making increasing use of terroristic activities to undermine the people's confidence in the strength and stability of their new government.

By 1951 about 10,000 well armed guerrillas, supported and led by well organized local Communists, had concentrated mostly in an area north and east of Manila. When local police and constabulary could cope no longer with the expanding guerrilla movement the Philippine Army was called in.

Each of the battalion combat teams (BCTs) formed for the anti-guerrilla operations had a full T/O strength of 1,047 officers and enlisted men. Normal-

Part of the worldwide communist conspiracy. Luis M. Taruc, head of the People's Liberation Army (HUK), surrounded by his guerrilla followers.



LIEUTENANT COLONEL LUIS A. VILLA-REAL, Philippine Army, is the Armed Forces attache of the Philippine Republic to Madrid. An artilleryman, he fought the Huks for several years as a battalion and regimental commander. Several years ago he was a student at Fort Sill.

THE ARMY COMBAT FORCES JOURNAL

ly these BCTs operated at about 70 per cent of that strength. The BCTs were organized into a headquarters and headquarters company, a service company, a reconnaissance company, three rifle companies, a heavy weapons company, and a field artillery battery, the members of which could be used also as riflemen. Also included were an intelligence section, a psychological warfare section, and a medical and dental detachment.

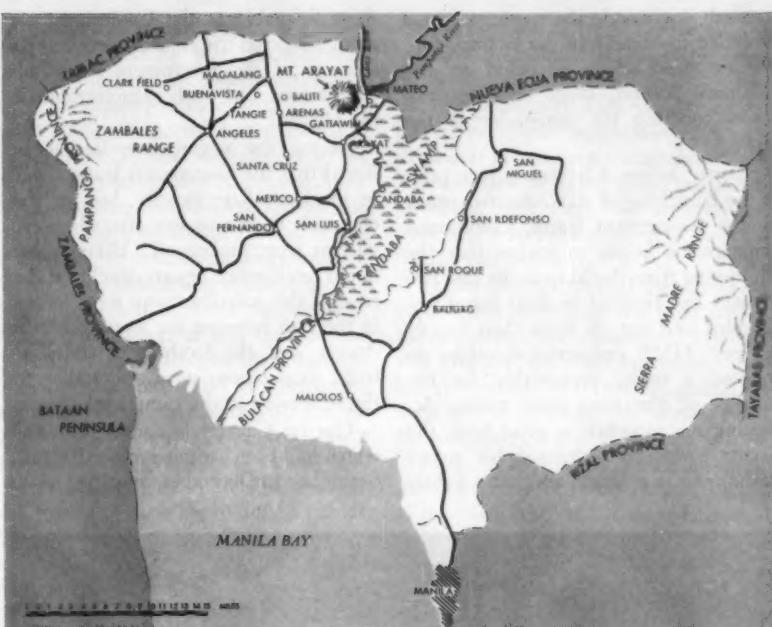
Attached to the BCTs, under the operational control of the S2, were military intelligence service teams, each composed of one officer and seven to twelve enlisted men. These teams, with order of battle records, terrain data, and related intelligence, were assigned permanently to designated areas, and were attached to the BCTs in or nearest to each area.

THE Army began its task by dividing the known areas of HMB sympathy into sector commands, each having a small tactical headquarters. Depending on the situation, two or more battalion combat teams were assigned or attached to each sector command throughout the region.

In organizing logical combat sectors the provinces of Pampanga and Bulacan were formed into the PAMBUL Sector. Bulacan Province borders in the south on Rizal Province*, in which lies Manila. Both Pampanga and Bulacan Provinces border also in the south on Manila Bay and form an area the approximate center of which lies some thirty miles generally north of Manila (see map).

PAMBUL Sector can be divided geographically into three distinct areas: two mountainous and one flat and swampy. The eastern area, in Bulacan Province, is dominated by the Sierra Madre Mountains, a series of rugged, wooded ranges running generally north and south and extending eastward through Tayabas Province to the Pacific Ocean. In the west lie the Zambales Mountains, an equally rugged north-south chain which rises along the west central coast of the island. Between the two ranges are situated the fertile plains of Luzon, the southern portion of which form the center of the PAMBUL Sector.

In the north center of the sector the Candaba Swamp spreads some ten miles in north-south length along the eastern edge of the Pampanga River. To the northwest of the swamp, immediately west of the Chico River, Mount Arayat, a lone volcanic cone, rises approximately 5,000 feet above sea level. East of the swamp, rice paddies extend to the foot-hills of the Sierra Madres.



The Candaba Swamp area, considered strategically the most important part of the sector, provided the HMBs with excellent cover and concealment as well as excellent sources of food. It was recognized that if the government forces attacked the swamp area the guerrillas could move westward into the Zambales area where supplies and crops were fairly plentiful. To the east, the Sierra Madres also would provide the guerrillas with excellent hiding places, with the added advantage that contact could be maintained through the mountains with HMB organizations in the north and south. If, however, the guerrilla forces were driven deep into the Sierra Madres they would encounter serious troubles, since there is considerable unexplored territory in that area.

HAVING evaluated strategically the three main areas within his jurisdiction, the PAMBUL Sector commander determined that had sufficient troops been available it would have been preferable to launch a series of simultaneous attacks in all three areas. However, with only three BCTs in his sector it was considered more practical to concentrate efforts on single areas in turn. Any other course of action would have required deployment of all three BCTs into a given area and would have left the other two areas open to guerrilla foraging attacks and probably to purely terroristic killing, burning, and looting.

At the peak of their strength the

HMBs were known to have operated small ordnance shops deep in the Zambales Mountains where they repaired weapons and converted carbines into serviceable automatic weapons. In order therefore to destroy these ordnance shops and bases or to render them untenable, it was decided to attack the Zambales area first. Committing two of his three BCTs to this mission, the sector commander assigned the 3d the task of providing security in the remainder of the sector.

Operations were initiated in the Zambales area in August, 1952, with one BCT moving into the rugged mountain interior where it was resupplied completely by air throughout the period. The 2d BCT took up positions covering all possible escape routes along the perimeter of the operational area. Other escape routes to the west and south outside the limits of the PAMBUL Sector were covered by troops of adjacent sector commands.

Up to October 1952, when the Zambales operations were terminated, seventy enemy were killed or captured of an estimated 200. All known ordnance shops and dumps within the sector were destroyed. Having accomplished his purpose in the area, the sector commander turned his attention elsewhere.

Following a phased withdrawal from the Zambales area, BCT elements in the PAMBUL Sector were redeployed around Candaba Swamp where squad-size patrol activity was initiated. As the troop

strength increased, the perimeter was extended to encompass the swamp. Operations were then restricted to the southern portion, with light security forces covering the remainder of the circle.

Shortly before Christmas, just prior to the launching of a coordinated attack by the government forces, Communist commanders began to realize that the Philippine Army buildup in the past two months had resulted in their being surrounded and cut off from their supply sources. HMB emissaries therefore requested a truce, presumably for the purpose of discussing peace terms. Accepting the proposals in good faith, the Sector commander ordered his troops withdrawn to a larger and more lightly

those favorable to the Communist element, observed the contrast between the sincerity of the government forces and the obvious bad faith demonstrated by the HMBs.

During the negotiations it was believed that the Communist leaders were in the immediate vicinity, but all contact with them was lost after the negotiations were broken off. When subsequent intelligence reports developed that most of the guerrilla troops were located in the area between the swamp, Mount Arayat, and the foothills of the Zambales, preparations were undertaken for the next stage in the campaign.

The 1st Cavalry Squadron (Horse), which had been assigned to the PAMBUL Sector late in December, remained in the

and were discontinued on 3 February. Although the whereabouts of the Communist leaders were not known definitely, intelligence reports indicated that they had remained within the triangle during the talks.

Because it was the home of one of the HMB commanders and a known center of HMB sympathy, the town of San Luis, on the southwestern edge of the swamp, was thought to be the hiding place of the Communist leaders. Also considered as logical hiding places because of favorable terrain and local sympathy with the HMB cause were the area west of Angeles, in the Zambales foothills, and Mount Arayat, at the north corner of the triangle.

WHEN PAMBUL Sector headquarters was informed that a guerrilla headquarters courier had been trailed to the *barrio* of Santa Cruz, near Mexico, that area was taken under surveillance. Meanwhile, troops attacked a number of possible hiding places within a five-mile radius. By a process of elimination, the most likely location of the HMB headquarters was narrowed to the Mount Arayat area.

On 2 April 1953 a guerrilla night patrol was contacted under circumstances indicating that it had been in touch with the Santa Cruz courier. The direction in which the patrol moved supported the earlier deduction that the HMB leaders were hiding in the dense jungles of Mount Arayat.

Early on 4 April the 17th BCT occupied positions blocking Communist escape routes along the trail connecting Gatiawin and Pinagkasalan, south of the hill, while elements of the 6th BCT moved in on the left flank of the 17th. At 0500 hours on the same day the 6th BCT attacked and searched thoroughly the objective area.

Meanwhile, at Arenas an officer of the 6th BCT's civil affairs unit learned that five HMBs were hiding in the fields between Arenas and the 6th's assault forces. Reserves searched the area and captured two men, one an HMB commander and the other an organizer.

The captives disclosed the location of the HMB headquarters on Mount Arayat. In addition, they revealed that a woman courier had brought food, clothing, and newspapers to Santa Cruz from Manila on 2 April and that another courier and seven armed HMBs left the *barrio* that same day to carry the items to their headquarters. This group proved to be the patrol contacted by elements of the 17th BCT that night. Following their interrogation, the prison-



Loudspeakers were frequently used to induce HUK guerrillas to surrender.

held line around the swamp while the peace negotiations were being held.

It is significant to note that the HMB peace proposals were timed to coincide with the rice harvest and that the area from which the government troops were withdrawn was dotted with rice paddies. Immediately available to the nearly starved guerrillas, therefore, were these rich, ready-to-harvest rice fields. The Communists had gained an advantage.

They gained an additional advantage since the enlarged perimeter created unfavorable gaps between troop units, permitting ultimately most of the guerrilla forces to escape from the swamp area. By the time negotiations were broken off by the HMBs (after New Year's Day, 1953) most of the guerrillas had vanished, as had the Communist leaders and much of the local rice crop.

WHILE the HMBs at first appeared to have won in this clear example of Communist trickery, it soon became evident that the Army and the government really had gained the psychological advantage. The local population, especially

Candaba Swamp area, along with the 22d BCT, in order to secure this area. The 6th and 20th BCTs, with the bulk of the 17th BCT, deployed in stages into the Zambales Mountains-Mount Arayat-Candaba Swamp triangle and gradually intensified patrol actions designed to discover the location of the top HMB leaders.

On 15 January 1953 the sector commander received word that new peace negotiations were to take place at Baliti, west of Mount Arayat. Consequently, the areas immediately west and southwest of this *barrio* were placed off limits to government forces.

Once again, top rebel leaders failed to take part personally in the negotiations, choosing instead to send representatives. The Communist demands proved to be as preposterous as they were transparent, and as the talks continued, bands of HMB guerrillas roamed unmolested through the off-limits area, gathering supplies within sight of government troops.

The negotiations, if they deserve to be termed as such, broke down completely

ers led government troops to the Communist headquarters, only to find that the position had been abandoned a few hours earlier.

It became necessary now to prevent the HMB leaders from escaping to the lowlands, apparently since they had learned of the capture of the two men. The 6th and 17th BCTs, both reinforced, quickly established a 30,000-yard perimeter, blocking the area with a series of strong points, from which patrols moved up the slopes of Mount Arayat in daylight.

FOllowing a patrol clash east of Catiawin on the morning of 9 April, guerrilla groups ranging in size from three to forty men made several attempts to infiltrate the perimeter, particularly on the western and southwestern slopes of Mount Arayat. Because all known water points in the area were under government control, it was assumed that the HMBs soon would be forced to make a major breakthrough attempt in order to alleviate a shortage of food and water.

On 10 April three companies of the 22d BCT occupied a line along the northern and eastern slopes of Mount Arayat, where they were reinforced later by an additional rifle company. On 13 April six companies from the BATZAM and PAGAN Sectors were attached to PAMBUL Sector headquarters. On the 24th another battalion plus two companies were added to the sector's strength.

On 24 April elements of the 6th BCT and 1st Cavalry Squadron attacked a small enemy force near the *barrio* of Buena Vista, west of the mountain. Seven guerrillas were killed and four captured. Acting on information obtained from the captives, among whom were members of the HMB headquarters security force, elements of the 6th BCT attacked a guerrilla camp where it

was thought the ranking leaders were bivouacked. Strong rear guard action, however, held off the government forces until the camp was evacuated.

On 29 April a guerrilla surrendered to the 22d BCT, and revealed that his group, comparable to a Philippine Army battalion cadre, was bivouacked on the northeast slope of Mount Arayat. Plans were made to attack this concentration, but this was abandoned subsequently in favor of a plan to reinforce the perimeter at the point where it was thought the guerrillas might attempt a breakthrough.

Before the line could be reinforced, a strong HMB force struck at the expected point. After inflicting heavy casualties on government units, the guerrillas succeeded in breaking through the line. No estimate of HMB casualties was made, since those killed or wounded evidently were carried on by their comrades.

It was impossible to determine whether the HMB leaders, whose capture was long the main objective of these operations, had escaped. Because troops patrolling behind the lines in the breakthrough area made no further contact, it was assumed that the entire Communist force had made its way safely across the Chico River, east of the hill. This would place the force in Nueva Ecija Province, which lay in another sector, ending for all intents and purposes the major anti-guerrilla operations in the PAMBUL Sector.

TO support the anti-guerrilla combat operations a series of specific efforts were made behind the lines to isolate the guerrillas from external sources of supply and from HMB sympathizers and other civilians within the sector. These efforts may be classified as intelligence and psychological.

In the intelligence field, screening points were set up periodically in each

A repentant HUK receives friendly treatment from Philippine government troops.



NOVEMBER 1954

community and all persons within a specified area were required to report for screening against the order of battle and personality files maintained by the military intelligence service teams. Prisoners in temporary custody of the teams helped to locate suspected HMB members, supporters, or sympathizers who, when so identified, were held for further interrogation.

Those cleared through the screening points were marked on the hand with a rubber stamp, the character of which was changed for each operation. The marks assisted local roving patrols in their efforts to insure that none evaded the screenings.

After each screening operation in a given area the civil affairs unit held a rally, consisting of short educational talks on citizenship, democracy, communism, and the role of the Army in the anti-guerrilla operations. Among the speakers were government officials, Army officers, prominent loyal citizens, and Communist prisoners. These psychological efforts did much to counteract HMB efforts along similar lines.

When it was recognized that the HMB forces on Mount Arayat were cut off from outside sources of supply and information, the Army initiated a brief propaganda or psychological warfare campaign designed to entice Communists into surrendering. Light liaison planes dropped two sets of leaflets over the area. One set informed the rebel leaders that the Army was aware of the HMB situation on the mountainous slopes and pointed out that they could choose now either to remain in position and die of starvation or thirst, fight their way out, or surrender. In the second communication the HMB soldiers were promised justice if they surrendered, and were told that if their superiors were seriously concerned for the welfare of their followers they would not force them to continue the hopeless fight.

Subsequent investigation showed that the guerrillas had been out of food for at least a week prior to the breakout attack. On the basis of this situation, fear of the effect of the leaflets on their followers forced the HMB leaders to attempt the breakthrough immediately.

HMB operations showed excellent planning and execution, with emphasis on deception and surprise, standard specialties of all capable guerrilla forces. In attacks or raids groups as large as 300 men and women were used, but more often the groups were considerably smaller. Their withdrawals almost always demonstrated good order and dis-

cipline and they exhibited special skill at establishing strategically located road blocks to delay the advance of Army forces.

The guerrillas relied principally on a system of couriers for communication, and further subdivided this system into "legal" and "illegal" systems. In the legal system the couriers, usually very young and innocent looking men and women, avoided roads and highways and moved cross-country on foot, while in the illegal system the couriers used the highways and public conveyances. As is familiar in conspiratorial activities, the couriers generally knew only the location of two posts, their own and one other. The route between Communist headquarters in mountain hideaways and the nearest courier post in the lowlands usually was maintained by HMB forces.

Because in their tactics the guerrillas specialized in elusiveness, it usually was necessary to move extraordinarily close to these forces before opening fire. This therefore required skillful and diversified patrol action on the part of all government units, and, accordingly, required the utmost in training and leadership at all levels of command.

Since the collection of essential elements of information depended largely on the success of the patrols, the ability of small-unit leaders was of particular importance in effective anti-guerrilla operations. Only a well trained leader could keep a well trained patrol on its toes every second under the sometimes demoralizing circumstances encountered in the Sector. The penalty for inattention to details of training often was likely to be death in a guerrilla ambush.

THREE were several occasions where Army units lacked the degree of mobility that might have meant success. This is predicated on the recognized fact that guerrilla forces were most successful in terrain which hampered movements of conventional units. Since HMB elements generally sought to avoid contact with government forces, they found that the jungles, swamps, and mountains worked for them as it worked against Philippine Army forces attempting to find, fix, and fight them.

The fruitless assault on the Communist headquarters hideout on Mount Arayat might have been successful had even a few troop-carrying helicopters been available to support a surprise encircling raid on the objective. Mobility of this type would have enabled the government forces to maintain contact with the HMBs until there remained no

alternatives but to stand and fight or to surrender.

LIKE the anti-Japanese guerrillas of the World War II years, the HMB forces were not self-supporting. They relied on the local population for sympathy and for financial and material support. Prior to 1951 the Communists employed a quota system to collect large sums of money from their followers, augmenting this by "taxing" other civilians and civilian-sympathizers in the areas under their influence. Farmers in these areas were pressured into paying tributes of food, especially rice, which was stored subsequently in mountain hideouts and in warehouses in the larger HMB-dominated towns.

The effects of long periods of open sympathy toward the Communist cause made it difficult to effect an immediate and complete separation of the guerrillas from their civilian supporters. Despite the fact that government forces generally were able to isolate the bulk of the HMB troops, supplies and information usually continued to reach the Communists.

The operations described here were difficult and delicate. Military action against dissident factions within a country can create more trouble than can be solved unless the government forces have or can win and maintain the friendship and loyalty of the local population.

A complex legal problem arises out of the fact that a government founded on genuinely democratic principles always hesitates to bring military forces to bear against a segment of its people except for the gravest reasons of national safety and security.

Because the success of any guerrilla movement depends in large measure on sympathetic support from the civilian population, it is essential that the people understand clearly that the armed forces of the government are their friends and protectors. Every civilian who is given reason to resent and fear the government forces is a potential supporter of the guerrilla movement, even though reluctantly.

Foreign troops are certain to be less welcome among the people than are the regular armed forces of their own government. Local populations will shelter their own people against operations of foreign troops, even though those they shelter may be outlaws. For this reason, native troops would be more effective than foreign forces in operations against native Communist conspirators. It would be rare, indeed, if the use of foreign



Part of the Philippines security program: buses are stopped at checkpoints and male passengers are frisked.

troops would not in itself doom to failure an anti-guerrilla campaign.

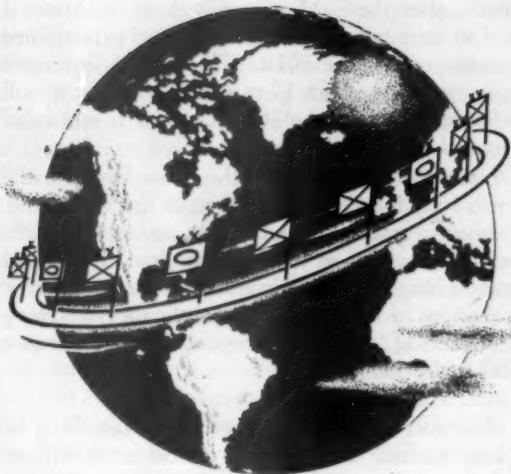
While this has been primarily a discussion of the anti-guerrilla operations in the PAMBUL Sector, the fact that the HMBs are part of a world-wide Communist conspiracy is evidenced with remarkable clarity in the parallel between the two HMB armistice negotiations and the Communist peace talks in various parts of the world.

WHEN Communist guerrilla leaders made armistice overtures the tactical situation had turned sharply against them. They needed a respite to gather new supplies and to either regroup or slip from a trap. When, as a direct result of the time spent on negotiations, the situation again became more favorable to the Communists, they broke off negotiations and resumed fighting.

The lessons here seem to be that when operating against Communists or Communist guerrillas, regardless of the circumstances, a good working knowledge of Communist world strategy is imperative in assessing the intentions and probable tactics of the smallest elements of the movement. The HMB actions have reflected generally the trends and shifts in the master plan of the Communist conspiracy.

Gyroscope is the code name, but you call it

World-Wide Unit Rotation



How will division rotation work? What will it do to me? Will it make the Army more or less combat ready?

The answers to these and other questions will be found in this authoritative report

OPERATION GYROSCOPE is the Army's answer to the imperfections and disadvantages of the individual replacement system. GYROSCOPE provides for the rotation of oversea combat units, ranging from battalion to division in size, with similar Stateside outfits. Its principal advantages are that it will stabilize individual assignments and increase the combat capability of the Army.

GYROSCOPE was not hurriedly conceived and approved. It is an outgrowth of many plans and studies advanced during the past decade. Unfortunately, manpower procurement problems, logistical roadblocks, and a warring world prevented putting earlier plans into effect.

GYROSCOPE overcomes these limitations so far as it is possible to do so. Indeed, unit rotation may increase the Army's ability constantly to be ready and able to replace entire units destroyed in a nuclear-age holocaust. GYROSCOPE is designed to improve the T/O&E of the active Army by producing more effective combat units. The principal ingredient of the plan is the stabilization of the assignments of career soldiers and selectees.

When GYROSCOPE begins to turn, it will be possible for a career soldier to put in twenty or thirty years in the same outfit, serve in all oversea theaters, have an equal amount of time in the States, and probably at the same post.

TO see how GYROSCOPE will work, let's take two hypothetical infantry divisions, locate them at two fictitious posts. We will put the 301st Division at Fort Ducrot, Kansas, and the 302d Division at Zweigenburger, Germany, and schedule them to exchange stations, beginning 1 January 1955.

Before the first soldier walks up the gangplank, the commanders of the two divisions will have worked out all details of the movement through direct correspondence. It will take careful planning and close coordination by the staffs and commanders.

APROVAL of the division rotation system described here came from the highest levels of the Government. The JOURNAL has been informed that when Secretary of Defense Wilson was briefed on the plan by Secretary of the Army Stevens and General Ridgway, he told them that his final approval depended only upon their getting the personal approval of the President. A few days later Mr. Stevens and General Ridgway flew to Denver to interview the President. Announcement of the plan came almost immediately thereafter. The plan had long been under consideration and study. Major General Robert N. Young gave it high priority when he became Assistant Chief of Staff, G1, in 1953. The actual working out of the many details was the task of many staff officers in the Pentagon. Two of them have been singled out by General Young for special mention. They are Colonel J. J. Dubbelde, Jr., Infantry, who was Chief of the Plans Division of G1, and Lieutenant Colonel Charles Calvert, Armor, also in the Plans Division of G1. It was Colonel Dubbelde's last important task for the Army as he retired on 30 September, within a matter of hours of the time public announcement was made that unit rotation had been approved by the President.

The divisions will move in three increments, at two-month intervals, and will use a regimental combat team for each increment. The same transportation facilities used to deliver the RCT to Europe will be used to bring the returning RCT home. As nearly as possible the exchanging RCTs will be the same composition and strength in order to maintain the oversea division at full strength and to equalize the burden on the transportation agencies.

Upon arrival in Zweigenburger of RCT 1 of the 301st, the commander of the 302d will have two of his own RCTs and a third belonging to his counterpart division. Thus, he is prepared to carry out the division's mission.

The second increment will include the division commanders and their staffs. Upon arrival in Europe, the commanding general of the 301st will have two of his three organic RCTs and a third RCT of the 302d. By rotating in this manner, the division commander will be with, and will command, the greater part of his division, except for the period he is actually in transit. Further, by rotating an RCT at a time, local ground rules and peculiarities may be passed on from one unit to the other and thus prevent a loss of continuity.

The entire movement will have been completed upon the exchange of the third RCTs. The 301st Infantry Division can look forward to 33 months in Germany, and then the return to the States. The 302d can plan on spending 31 months at Fort Ducrot before moving overseas to a different theater.

IN planning GYROSCOPE much consideration was given to the length of the oversea and Stateside tours. The periods of 33 and 31 months were dictated by the two-year term of selectees who make up approximately fifty per cent of the Army's enlisted strength.

In general, Selectees will get six months of training before going overseas. They will then serve 17 months overseas. This totals 23 months. The remaining month is to get him back to the States and discharged.

The way it will work is this. Beginning six months before the 1st RCT of the 301st Division is scheduled

to replace an RCT of the 302d in Germany, it will receive an increment of brand-new Selectees. These will be trained and integrated before the outfit sails. They will then serve 17 months overseas and be rotated back after an increment of trained Selectees are received to replace them. This second increment of Selectees had been trained for six months by the 302d. In other words, 10 months after the 302d arrived back in the States it received an increment of Selectees designed to be trained as replacements for the 301st. This second increment will also serve overseas for 17 months, which period will coincide with the date the 301st Division is scheduled to be rotated back to the States.

In training the Selectees for the 301st Division, the 302d will fully indoctrinate the men in the 301st Division's history, traditions and battle accomplishments. Patches of the 301st, as well as appropriate regimental or battalion insignia, will be issued, in order to make the men conscious of the spirit of the outfit they are going to be members of. Shipment overseas will be made in a "packet" replacement group.

FOR the career soldier GYROSCOPE offers something he has long wanted: Men joining combat units will receive their training in, and become a part of the unit. They will change stations at home or abroad when the unit moves. The stabilization of men in units serves several needs. It will produce a more effective and competent combat soldier, with a greatly increased morale, and create a higher standard of unit performance and *esprit de corps*.

We all know that soldiers remaining in a unit over a period of time develop extraordinary loyalties to their outfit, to their leaders, and to their comrades in arms. These intense loyalties are a means of developing team fighters who will fight and even die for the reputation and prestige of their unit.

THE advantages of stability of assignment to individuals and to the service are well known, but worth repeating briefly. Stability of assignment creates more highly qualified noncommissioned officers and skilled technicians. Incoming recruits will be trained by the unit to which they will be assigned, and with less time loss and with more efficiency. Thus, a high order of unit teamwork is possible. The prestige of the noncommissioned officers is raised and the respect for authority and discipline is strengthened. The net result will be better trained, better led, units with firm attachments and loyalties.

GYROSCOPE also will help to stabilize officer assignments, especially in the company grades. At present, newly commissioned officers in the combat arms generally serve the greater portion of their first five or six years in troop units. Under the present system, this service is divided among several units. However, GYROSCOPE may make it possible for many company-grade officers to remain assigned to the same division or regiment during all or a major part of their junior service. All officer grades will have a greater degree of stabilization as career planning becomes longer-ranged.



WITH target dates presently established for coordinated travel of dependents to several of the oversea areas, and studies being pushed for the remainder, the movement of dependents overseas may well be coordinated with **GYROSCOPE**'s rotation of units. This is obviously a most important point in a peacetime army.

In addition to its rotation and stability, **GYROSCOPE** also contains certain features which will produce material savings to the Army in men, money and time. With stability, the reenlistment rates may reasonably be expected to increase, thereby reducing the requirements for the basic training of new men along with the related costs of losing trained privates and noncommissioned officers. The direct movement of officers and enlisted men from unit stations to the transports for oversea movements will reduce the number of military and civilian employees required for the operation of processing stations. The stabilization and lengthening of the tours of duty in the United States will decrease the frequency of individual assignments, and savings in the costs of packing, crating and movement of household good and in travel will follow. For example, to move an infantry division from Fort Riley, Kansas (the geographic center of the U.S.), by troop train to the New York Port of Embarkation costs approximately \$122,000 less than moving the same number of officers and men individually.

There will be greater supply economy, too. **GYROSCOPE** provides that all possible unit equipment will be trans-

ferred in place each time a unit rotates. Such transfers will require careful planning and coordination, but the long-term effects should result in improved maintenance and supply accountability. The realization by a commander that he must turn over and account for all of his property in proper condition, at a given time, will provide a strong incentive to stay abreast of the supply and maintenance situation in his command.

THE relief of oversea units by incoming units from the U.S. will provide training in relief techniques that are required constantly in combat. Though these reliefs will not be conducted under combat conditions, the same planning and coordination will be required, thus providing valuable experience for such an operation in the event that it be made during combat. In addition, worldwide training and experience factors will be obtained by the railroads, Military Sea Transport Service, Transportation Corps, and all of the technical and supply services.

The immediate rotation of all units simultaneously is obviously unworkable. Therefore, it will be necessary to put **GYROSCOPE** into operation gradually. Approximately two years will elapse before the last division is rotated. By the use of planned arrangements, the initial rotating divisions will serve as test units and will be able to furnish valuable experience factors for later rotating units. As **GYROSCOPE** progresses, necessary adjustments may be made efficiently.

DON'T TINKER WITH THE GYROSCOPE

FOR more than a decade soldiers have been nomadic, moving from place to place so fast that they had no opportunity to feel they belonged to anything more substantial than the Army. This was one of the real sources of service dissatisfaction and was acknowledged as such. When unit rotation was first advocated its justification was that it would provide for stability of assignment.

The additional element of combat readiness was added to **GYROSCOPE** as it developed. Combat readiness is a necessary element without doubt and also a quite essential element of any rotation system. Certainly no system of unit rotation would have been adopted that would clearly lessen the combat readiness of the Army.

As finally presented (and as described in the above article) unit rotation will provide for stability of assignment and increase the combat readiness of the Army. **GYROSCOPE** will do that—if it is permitted to work.

GYROSCOPE won't work if too much is loaded on it. It won't work if the Army is required to maintain more combat units with fewer men. It won't work if the ground rules that are basic to it are changed. A gyroscope is a sensitive instrument and amateurs shouldn't tinker with them.

There are hints that the Army will emerge in a year or so with 24 combat divisions—and at a time when its total strength is being reduced. This is possible, of course, but it is hardly possible that those 24 divisions will be at full combat strength and ready to fight. The Army learned long ago that if you don't have at least a minimum number of

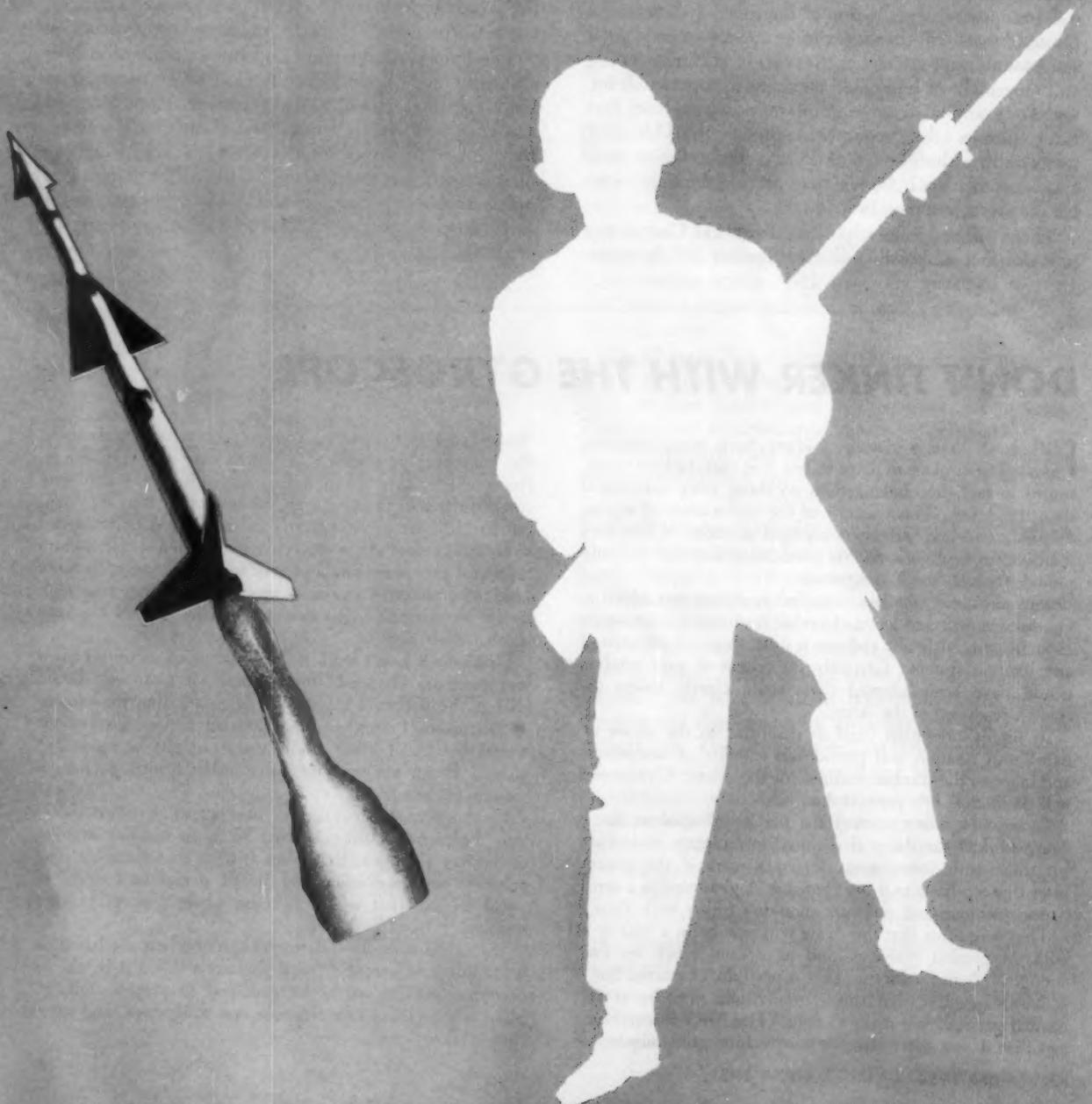
"housekeeping" troops your combat units will be performing the housekeeping chores at a cost to the unit's combat efficiency. The days when a first sergeant and a company commander had more men on special details than they had out for drill are quite distant, but they could return. And so could the days when officers were assigned so many extra tasks that they were rarely present for duty. And with those kind of conditions you almost inevitably find that your regiments are understrength two-battalion outfits. Not a very combat ready picture.

GYROSCOPE won't work if the basic premises on which it was built are changed. For example, if Congress should change the period of service for Selectees from the present 24 months to 21 months (as has been advocated) **GYROSCOPE** would be out of kilter. Adjustments might be made but only if there was assurance that other arbitrary changes wouldn't be made.

Here again the increase in number of divisions comes into the picture. Congress isn't likely to cut the strength of the forces overseas, but when it finds that there are nine or more "combat divisions" in the ZI, it may be tempted to wield an axe that would fell the whole concept of unit rotation.

Only time will tell. The fears expressed here are based on what has gone before. And if there is a lesson it is the old one that soldiers are better qualified to prepare military plans and tables of organizations and equipment, and such, than civilians.

WAR WITHOUT MEN . . .



Let's not be hypnotized by push buttons. Whether it's cold or hot, war requires strong, mobile ground forces. We don't have them today, nor do our allies.

COLONEL GEORGE C. REINHARDT

AMERICAN diplomacy suffered a setback at Geneva as catastrophic as the French military defeat at Dien Bien Phu. Both reverses sprang from the same cause: the communists control the thermostat in the Cold War. They do because Malenkov & Company has the army it needs, where it needs it.

Our truce negotiators in Korea learned that communists respect only armed power, available on the spot and prepared to back up high-sounding phrases. In Korea, and again in Indochina, that meant not only air power and naval strength but ground combat forces, numerous and well armed.

In contrast, the United States and the rest of the free world have consistently underemphasized their armies since the end of World War II. The West has refused to realize that the vast technological advances in warfare did not eliminate, but actually increased, the need for trained soldiers. It has been trying to hold the communist bloc at bay with huckster phrases about miracle weapons, flaunted but never used. The free world has supported its diplomats with press releases about atomic and hydrogen bombs, guided missiles, push-button forces, and strategic bombers. It has tried everything except having enough trained, equipped, fighting men.

There has been an awakening in some places. Chairman Alexander Wiley of the Senate Foreign Relations Committee, for one, recently warned against continuing to place our major reliance on air power. He doubted whether "we can be smug concerning our Air Force since Russia disclosed the equivalent of our B-52 intercontinental jet bomber." Referring to the war in Indochina, the Senator prophesied: "Air and naval forces may not be able to prove the exclusively decisive factor."

COMMUNIST China created its army in accord with the Soviet concept that modern war above all requires

men. Our own airborne expert, Major General James M. Gavin, bears witness that this is no antiquated "human sea" notion. He asserts: "The requirements of atomic conflict inevitably include more, not less, ground soldiers and tactical air strength."

America's postwar strategy has been based upon the assumption that small, élite formations can, with superior weapons, defeat almost any number of poorly armed troops. It's the old knight-in-armor-versus-peasant concept in new dress.

Unfortunately, we did not put superior weapons into the field in Korea, whether or not we had them stockpiled. Chinese "volunteers" were a long way from being undisciplined peasants. Our all too small Army was unable to wholly match them. Consequently, our theories failed miserably in Korea. Absolute command of the sea and nearly absolute air supremacy failed to produce victories, for lack of men on the ground. Nevertheless, today, as in the post-VJ period, we delude ourselves with talk of maintaining our security with machines and bombs—in short, a war without men.

Such escapism has led to the ruin of nation after nation. One reason why Imperial Rome fell was that it could not buy mercenary armies able to defeat barbarian invasion, once its self-reliant citizens had become too soft to fight.

The American experience suggests that we should pursue a sane middle course between extremes. Our record of technological achievements explains and justifies our insistence upon scientific support for brute strength in combat. American respect for human life makes the casualties of mass-attrition warfare abhorrent. For generations we have produced more coal per miner, more steel per worker, more food per farm hand, than any rival. Our most expensive and scarce form of power has been manpower. Extending our industrial experience to military fields makes sense. Whenever and wherever possible, we substituted weapons for men. Yet a preponderance of manpower, ours or our allies', has favored the United States in the decisive phases of all its wars.

Now, for the first time confronted with a threat that

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To fail to exploit our newest weapons would be as un-American as it would be disastrous . . .

is backed by human resources exceeding our own, we must, of course, emphasize technological superiority in weapons and equipment. But there is neither excuse nor reason for resorting to the fantastic and avoiding the facts. It is also extremely dangerous.

THE unpleasant fact is that the armies of the United States and its allies must approach in size those of the armed hordes of communism if the free world is to survive. Fortunately, despite fears of military escapees who would substitute atomic bombs for divisions, the manpower problem can be solved. Communist masses can be countered, even arithmetically, if we exploit the mutual manpower potential of our Atlantic and Pacific allies along with our own.

France alone had an army of two million in 1940; surely one-third of that is practicable today. Sixty million Germans and as many Japanese live within areas the United States has pledged to defend. They could easily maintain half a million troops each. Italy, whose fighting men have been grossly maligned for the faults of incompetent leaders, would not be taxed unduly by 20 divisions. Turkey now has more than 20, and Spain has another 20 that we can rally if we will. The far-flung British Commonwealth has always responded to emergency, when it finally recognized one, with 30 to 50 divisions. The total is startling but factual. And American and western European industry can arm its divisions better than the divisions of the Iron Curtain countries can be armed.

Only one factor is missing from this rosy picture: the role of the United States. Our present rearment program is immense—in terms of everything but combat divisions. To stop the communist hordes, the United States must have more than token armies. Not even a full-scale resumption of the "Arsenal of Democracy" role is enough. U. S. divisions must take their places in appreciable numbers wherever we expect our allies to resist armed aggression.

After soul-searching and debate, we successfully built up a worthy army of South Koreans behind the screen of UN divisions. Our six divisions in Europe comprise a valiant advance guard rather than a screen, especially since our so-called "mobile reserve" is almost nonexistent and strategically immobile.

IN World War II, Soviet Russia not only raised the largest army of any combatant, but put the highest per-

centage of its population into its armed forces. The peoples of the USSR suffered not only the greatest number of casualties in that war, but, with the exception of Poland, the greatest percentage loss of population. Even with those sacrifices, ultimate victory required the aid of the Western allies.

Today Russia is again exerting the greatest effort. If the NATO nations, *including the USA*, had the same proportion of military forces to population as Russia has, there would be no communist menace.

The vastness of Russia's manpower is not the greatest danger to an adequate defense of the free world. The danger lies in the American and allied unwillingness to commit their own men in sufficient, not necessarily equal, numbers.

Manpower statistics have been used and misused until they can be twisted to support any contention. In evaluating military strength, the imponderables of the "effective" manpower of known total populations tend to confuse the facts. A few points are clear, however. America's 160 million swing the balance in Europe, even after all the populations of the European "satellites" have been added to the communist ranks.

Red China's armed millions, while a threat on China's borders, cannot reinforce the Kremlin's armies in Europe. And even these could be held in check in the Far East by Japan, Pakistan, and other nations on our side. Yet defeatism, generated by the Soviet armies that exist today, can make communist superiority in trained manpower a permanent fact the day after tomorrow.

THE United States cannot buy a mercenary army to prevent aggression. All our Marshall Plans and military aid programs are logically capped by our commitments either to the United Nations or under the North Atlantic pact. The spirit and the determined efforts of our allies cannot be expected to exceed our own.

New divisions are expensive to create and maintain. New divisions demand many more men than air groups or trick weapons. Both of these considerations are unpleasant to face.

That is why we nationally chase the will-o'-the-wisp of phantom battalions; that is why the public acclaims this disastrous concept of defense. Opportunism and the perennial national characteristics of the American people thus combine to endanger the security of the United States.

The people of America have never lost their aversion to "large standing armies." Perhaps it was the bad taste left by British Redcoats in our Colonial struggles; or perhaps it was immigrants' memories of governmental oppression, enforced by arrogant soldiery in "the old country." Whatever its origin, the prejudice remains a potent influence. For example, the original Constitutional prohibition against army appropriations for a period in excess of two years still hamstrings the Army's efficient contracting for equipment but does not apply to the Navy or Air Force.

This once understandable state of mind has been reinforced through American history by our ability to raise

victorious ("They always won the war, didn't they?") armies after the start of every conflict. Our histories lay great stress upon the manly virtues of our people, which enabled Minute Men to defeat British regulars and newly formed National Army divisions to knock out Prussian Guards.

Those books fail to record two more revealing reasons for our unbroken martial success. First, American manpower, aided by that of our allies (French at Yorktown, British in the Ardennes), has always been numerically greater than that of our foes. Secondly, we have always had time—purchased by geographic isolation or a friendly British navy—to mobilize a sufficient quantity of that manpower before the enemy had to be met on the battlefield.

OUR unjustified we-can-always-do-it-again-if-we-have-to attitude has been subconsciously fostered during the past decade by our reliance at first on atomic monopoly and later on atomic superiority. It was only recently that Kremlin disclosures of hydrogen-bomb tests and an expanding communist strategic air force shook the complacent U.S. belief that nuclear superiority is all that we need to survive.

The strengthening of continental defenses and the build-up of the Strategic Air Command with weapons and planes are good as far as they go. But they fall far short of making us militarily too strong for our potential enemy. We have begun to face up to the cost of defending American cities from air attack; we still object to putting enough men into Army uniforms to prevent such an attack from being launched. It is clear that our diplomacy will suffer so long as the U.S. fails to command the respect of the communist bloc. At Geneva, both Russia's Molotov and Red China's Chou En-lai openly derided our concept of massive retaliation. Massive retaliation is a deterrent to total war, but the threat of communist retaliation on our own vulnerable cities makes it ineffective against piece-meal world conquest. The Kremlin is already convinced this country will not order a strategic bombing offensive to stop communist creeping aggression.

ONLY a strong, highly mobile force, composed mostly of Army divisions, can contain local creeping aggression and keep U.S. global diplomacy from falling completely on its face. No serious military expert, whatever the color of his uniform, believes that aggression on the ground can be stopped anywhere else but on the ground. Korea was an ideal test for the application of air and naval superiority. U.S. supremacy on the sea and in the air was indispensable to the GI in his foxhole; but if it had not been for U.S. divisions, Korea would have been overrun regardless of how many planes or ships we brought to bear.

Clearly it is high time for a new New Look at our military defense policies, with due regard for the importance of nuclear and thermonuclear weapons. To fail to exploit every potential of our newest weapons would be as un-American as it would be disastrous. To neglect continental defense or a "deterrent" Strategic Air Command would

... but to stop the communist hordes, the United States must have more than token armies.

invite communist blackmail whenever the Cold War grows hotter. But to ignore the lessons of history, to repeat our error of maintaining inadequate ground forces until we are attacked, could be fatal.

The world power of the United States can be gradually whittled down by Korean and Indo-China incidents, staged at slight cost by aggressors, until we have lost our allies one by one without ever having used our deterrent air strength or tested our continental defense. That way is dangerous.

German schemes for world conquest twice counted erroneously upon American decadence and inability to place fighting armies in the field. Will our military policies lead the Kremlin into making the same mistake?

THEY will unless the American people realize that in a world situation so unfavorable we must prepare large numbers of men to fight *before* the need arises. America must take to heart the lesson of General Emory Upton that preparedness not only reduces the cost of war but in many instances prevents war from breaking out. In essence, we must recognize the priority of freedom over a high standard of living. We must realize that, whatever the cost, we *can* afford the price of survival.

The moral for mid-twentieth century USA is easy to read, though perhaps unpalatable to swallow. We cannot go it alone in a world that contains the sharp cleavage between the free and the totalitarian-slave nations. We cannot and do not desire to conquer the world in a series of "preventive wars."

The only other alternative is to invest our resources, manhood, and wealth in the four pillars of truly national defense, which today has world-wide frontiers. We must have (1) a mighty air force; (2) an effective defense of our heartland's cities; (3) a navy superior to any possible combination of foes; and (4) a strong, highly mobile army, ready, equipped, trained . . . now. All must employ new weapons to the utmost.

There are no "priorities" among those four. Each one and every one is essential. Belatedly we seem to have accepted the first three. There is barely time for the nation to realize that its security cannot totter on a three-legged defense stool. We cannot win a war without men. Providing an adequate ground army will erase the risk of losing a war. And it may do more. *With an adequate army we may check communist aggression without having to resort to total war.*

CEREBRATIONS

Co-ops for PXs?

EVERY soldier knows that the Post Exchange has become a problem. It is common knowledge that the PX is included in the soldier's pay as a symbol of economic advantage justifying lower compensation for military service. But civilian opposition and Congressional restrictions on Exchange operations have acquired a symbolic meaning that obscures the simple fact that the Post Exchange is an expensive and inefficient service for which the soldier pays more than he receives.

Why not abolish the PXs and substitute post cooperative stores? Whenever people have lived together on limited incomes, sharing the problems of a common way of life, they have sought to reduce their expenses by group buying and selling. Co-ops have the approval of popular and legislative opinion. Their merchandising practices are based on the needs of a group of people with mutual interests and problems. And they pay for themselves. A moderate annual membership fee (about \$5) constitutes the working capital of the store, and entitles each member to a proportionate share of the savings made by the operation of the co-op. So the cooperative store is a type of "private enterprise" that can be adapted to the military post.

This is our proposal. Now the argument.

What is wrong with the Post Exchange?

First, it is old-fashioned. The PX was the Army's answer to the need for a country store on isolated posts. It was designed for a small, homogeneous station, providing a limited number of "essentials" which were in recurrent demand. And this was enough for many years: Military consumers demanded less, large "Special Order" items were provided by the Post Quartermaster, and there were fewer families depending on it for children's clothing and household furnishings. But consider the Army post today! In population alone, it frequently exceeds neighboring urban centers. Furthermore, the post population is more heterogeneous. More people are demanding a greater variety of items.

This department is designed to accommodate the short, pithy and good humored expression of ideas—radical and reactionary, new and old. We pay for all contributions published but you deserve to be on notice that the rate of payment depends upon the originality of the subject and the quality of writing rather than length. This department is hungry for contributions, so shoot that good idea in . . . today.

Secondly, the PX is expensive and inefficient. Its managers may be hard-headed businessmen, but today they have to compete with new developments in wholesale merchandising. Nationwide buying and redistribution no longer result in great savings because of the need for large and expensive administrative structure.

Thirdly, you *pay more* for the Post Exchange than you save. Members of the military service can never expect a wage scale equivalent to civilian scales when part of their cost of living is borne by the government. Add up the salaries of the military personnel *alone*, assigned to Post Exchange duties, from Washington through your local post. That's money out of *your* pocket. It may not be tacked onto a price tag, but it is added to your wage scale. The PX fosters an illusion of advantage which justifies comparatively lower compensation for military service.

One other argument should be mentioned. The retention of the Post Exchange is frequently justified on the ground that it contributes funds for "morale" and "welfare" activities. Such an argument enables the government to evade its own responsibility for providing such funds. Is it fair to tax the soldier to pay for his own "morale" activities?

The post cooperative store would be a legally incorporated group of persons in a military community (as many as want to join), who hold "stock" (membership) in an enterprise which sells merchandise at prevailing market prices

to all customers. Every member gets back his share of the savings once a year. When anyone makes a purchase in his name, the number of his membership card and the amount of the purchase would be recorded. At the end of the year, his share of the savings would be determined by the amount he has purchased from the store. In addition, he would get back a share of the savings on purchases made by non-members.

This is "free enterprise" except that only soldiers and their eligible dependents could be members. Since every soldier's savings would be only a return on his investment in the co-op, it could not be charged against "Pay of the Army." And because the co-op would be self-supporting, it could not be controlled by appropriations riders.

The "moocher" problem would also be solved. It's easier to control membership than sales. There would be no advantage for non-members because the price will be the same as off the post. Competition with local retail stores would thus be eliminated.

The post co-op would be limited in the range of its merchandise only by the selling capacity of the store. It could provide an outlet for the steadily increasing demands of all consumers, while concentrating on the needs of its members. There is no reason why, in a secondary stage, the co-op could not be able to take over the functions of the Sales Commissary, which is now under more vigorous attack than the PX. Nor is there any reason why the co-op could not take "special orders" for its customers.

The post co-op would be governed by a board of directors, elected by the members. They would employ a civilian manager paid from the profits of the store. Although the co-op would operate under such general policies as might be stipulated by the post commander, such policies would be the same as those provided for a concessionaire. The co-op should avoid every aspect of being an "official agency." In this way it would remain independent of restrictive legislation initiated by local pressure groups and passed down from Congress to local commanders. An adequate degree of

control could be exercised by official "conditions of operation," and by the voting power of the stockholders.

Here is a challenge for those who can make the co-op possible to prove that the Army can still take care of its own.

CAPT. ROGER W. LITTLE

Shooting Messages

WHEN radio fails or is jammed by the enemy, combat commanders are too often without any method of communication. Telephone lines are vulnerable to artillery fire. Runners are comparatively slow, and they often don't get through. The various types of visual and sound communication are unsatisfactory as a full substitute for radio and telephone in an emergency. Such methods as carrier pigeons and plane drop and pickup are too often impractical.

There is, however, one other method left—shooting messages. We ought to be able to shoot messages out of a mortar, a howitzer, or a recoilless rifle. This method is not entirely without precedent, for our artillery has often fired propaganda leaflets at the enemy.

All that is required is a projectile designed to hold a written message, which will burst over a "message reception center" and drop the message in the manner of a parachute flare. If we can make a hydrogen bomb, we ought to be able to design a simple hollow shell for this restricted use.

The distance that a message would have to travel would determine the type of "launcher" used. Perhaps a 60mm mortar would fire messages from 350 to 1,600 yards, an 81mm mortar from 550 to 3,000, a 105mm howitzer from 4,800 to 12,000, a 57mm recoilless rifle up to 4,800, and a 75mm recoilless rifle up to 7,300.

Let's take the case of a company in an advanced position that has been cut off from the rest of the battalion. Its radios have been jammed and its telephone lines cut. The company commander wants to request artillery fire against specific targets, as well as ammunition and other supplies. His only possible method of communication is to fire a message.

First, he must know where to fire the message. He could fire a pyrotechnic of a designated type and color that would not only identify the company but would also say in effect, "Where is 1st Battalion Message Reception Area?" Battalion would respond with a designated flare of its own, or a series of flares, which would be fired vertically from its own message reception area.

A company then prepares its message (in code if the situation seems to require it), estimates the distance to the battalion message area, and fires the message. The message could be prepared in duplicate or triplicate and sent a second or third time if battalion does not acknowledge receipt of the message (also by prearranged signal). Acknowledgment signals could be fired by colored smoke shells in front of the company or even into the enemy position.

What are some of the objections to this method?

(1) Messages shot forward from battalion could fall into enemy hands if not fired accurately. True. Therefore, accuracy would have to be achieved in practice firing—as is the case of regular artillery and mortar firing on the range.

(2) Messages shot inaccurately from front-line units back to battalion would be lost. An SOP could be established whereby any message seen to land outside the message reception area would be opened and promptly delivered to the battalion command post.

(3) The firing of pyrotechnic signals to identify the message reception area would enable the enemy also to spot the area and lay in concentrations of artillery or mortar. Such counter-action would be costly to the enemy and would not likely be effective, as the message reception area would be large, and we could not reasonably expect that it could be "knocked out."

(4) This method simply loads more equipment on the infantryman. Naturally some soldier or several of them would have a little more weight to carry. But this is no valid objection if we consider emergency communication important. The number of shells carried by a company would not have to exceed half a dozen or a dozen.

(5) The enemy might capture some of these shells and use them against us by firing false messages into the battalion message area. To prevent this, a system of authentication—the positive identification of the sender by a frequently changed code name—could be employed.

If tests should prove that it is not possible to fire these time-shell messages accurately enough to make the proposed method practical, another type of message shell could be designed, which instead of bursting in the air would continue its flight to the ground. Any danger to our own troops from firing this type of shell could be avoided by incorporating a device that would give the shell in flight its own characteristic

sound—some distinctive whine or whistle similar to the Germans' "screaming meemies" of World War II. Our troops would thus be warned of the approach of the shell and at the same time be notified that a message is on the way.

CAPT. JOSEPH H. EWING

Orientation from the Air

THE next time the chips are down, the light plane (or helicopter) will be our three-dimensional jeep. It's much easier to get lost in a plane than in a ground vehicle. Staff officers would do well to develop their proficiency in map reading and orientation.

Modern aeronautical charts are designed for use at higher speeds and greater elevations than those of the light plane. Air charts usually eliminate detail that would clutter up the chart and make it impractical for high-speed navigation. For reconnaissance in a light plane, a ground map that gives this detail is needed—1:250,000 for large areas, and 1:50,000 or 1:25,000 when the area is small. If you do use an air chart, remember that the edition printed with UTM ties in directly with the ground maps at all scales, while the GEOREF edition is used in major aerial strategy, air defense, and air-sea rescue.

When making a reconnaissance in a primitive area, it is important to remember three points:

(1) Rapid weather changes increase the problems of orientation.

(2) It's possible to get lost in a surprisingly small area.

(3) "Reconnaissance type" maps are not too much help once you're lost.

Experience flying light planes and helicopters over the Seward Peninsula in Alaska showed that the best terrain features for orientation were the coastline, settlements, roads, and prominent terrain features. The coastline was well depicted on the old maps, while the representation of interior areas was often merely the result of imagination.

The situation is far different in developed areas, such as the eastern part of the United States. Here, there is so much detail that the problem is rather one of selection. There are so many surfaced roads that only the parkways and turnpikes stand out. Major rivers, lakes, and estuaries are helpful; minor streams and ponds are not. Railroads are useful only if the local system has been studied before the flight. Power lines cut a distinctive and conspicuous swath across the land. A few hill-forms, such as Indiantown Gap, are clearcut enough to establish position.

COL. WILLIAM C. HALL

THE WORD FROM THE SCHOOLS

THE INFANTRY SCHOOL

New Helicopter Board

A five-man board has been appointed by the Commandant of TIS, to review and coordinate helicopter instructional material used at The School. The mission of the board is to supervise the preparation of special texts and other training literature. In addition, it will make recommendations to Army Field Forces headquarters at Fort Monroe, Va., for helicopter training tests.

Airborne Department Reorganized

Because of a cutback in students, the Airborne Department has been reorganized. It now consists of a Basic Training Committee and an Advanced Training Committee. The Basic Training Committee instructs in the five basic jump techniques, conducts the five qualifying jumps, and determines whether students are in physical condition to jump without injury. The Advanced Training Committee is responsible for instruction in the techniques of air transportation of Army units and aerial delivery of supplies and equipment. It also conducts the jump-master course for officers and first-three-graders.

TIS Instructional Material

The following new instructional material suitable for non-resident as well as resident instruction may be ordered from the Book Department, The Infantry School, Fort Benning, Ga., at the prices shown.

Front Line Battalion in Coordinated Fire Plan, 2408A-USAR. A description of long-range fires, close defensive fires, final protective fires, and fires within the battle position; roles of machine guns, 81mm mortars, heavy mortars, and field artillery. 1 hour. 30¢.

Lessons From Korea. A compilation of lessons learned by the infantry from its military operations in Korea. Included are lessons learned in tactics, use of weapons, functioning of staffs, use of communications, and automotive maintenance. 10¢

Wire Communication, 3292-USAR. Characteristics of wire equipment of the infantry regiment; the capabilities and limitations of wire communication. 1 hour. 15¢.

Training, Selection and Duties of Communication Personnel, 3560-USAR. Procedures used in selection of personnel for communication duties; requirements for all phase training of communication personnel. Practical exercise in preparing MTP training schedules for communication personnel of an infantry battalion. 2 hours. 15¢.

Company and Battalion Radio Sets, 3563-USAR. The characteristics and employment of radio sets organic to elements of the infantry battalion, heavy mortar company, and tank company. Field expedients to extend the operating range and capabilities; responsibilities for maintenance and supply functions on radio equipment. 2 hours. 15¢.

Command Posts, 3627-USAR. A practical exercise on selection, interior arrangement, operation, and displacement of a command post. 1 hour. 10¢.

Communication Systems of the Infantry Regiment, 3635-USAR. Radio and wire systems of the infantry regiment. Practical exercise covering company communication systems. 1 hour. 15¢.

Communication During Approach March and Attack, 3650-USAR. The duties and organization of communication personnel in the infantry regiment and communication in the approach march and attack. 3 hours. 30¢.

Preparation of a Field Exercise Rifle Squad in Attack, 7254. Procedures used in planning, preparing, and conducting a small-unit exercise. Includes a practical exercise in the actual preparation of a field exercise for a rifle squad in attack, including ground reconnaissance and critique. 6 hours. 15¢.

Handbook for Instructor Training. A resident publication which is designed to assist an officer or noncommissioned officer confronted with the task of training instructors. Everything from a training memorandum to detailed lesson plans is included in this handbook. The field manuals have been worked over in detail and the important points extracted and compressed into a logical, streamlined course of instruction. 45¢.

A special text on rifle marksmanship, designed especially for instructors, has been published for residential use at The Infantry School. The text, entitled "Hits Count," uses a variety of illustrations and an informal style of writing to teach instructors how to train riflemen to get hits that count on the range and in combat. Although the text is intended primarily for instructors, The Infantry School considers it must reading for all infantry officers and NCO's. 50¢.

T-10 Parachute Assembly

TIS has cancelled instruction on the T-7 parachute assembly. In view of the availability of the T-10 and its favored use over the earlier T-7, instruction is being confined to the T-10.

TIS "Sells 'em Hard"

Last March an editorial entitled "Catch 'em Young, Sell 'em Hard" appeared in *THE ARMY COMBAT FORCES JOURNAL*. It urged the Army to attract youngsters by inviting them to its posts and letting them see for themselves some of the more "glamorous" features of Army life and Army equipment.

TIS does this on a year-round basis. Here is a run-down on the major visits of young people to Fort Benning which have occurred since the *JOURNAL* editorial appeared:

- (1) Birmingham (Alabama) Boy Scouts—5 adults and 32 boys.
- (2) Herring (Georgia) School—5 adults and 63 children.
- (3) Woodland (Georgia) School—3 adults and 25 children.
- (4) Youth Rally Day—250 school children.
- (5) Demolay Group—150 high school boys.

What do these young people see? The Youth Rally visitors had lunch in the field, prepared by the Third Army Food Service School, saw an hour-long demonstration of paratroop training, and toured the Main Post. Itineraries of other groups vary, since there are many interesting things to see on the post.

THE ARTILLERY SCHOOL

New Fire Planning Terms

TAS has adopted several changes in fire planning terminology in order to clarify these terms for instructional purposes and to effect coordination with The Infantry School. The following are now in effect:

Preparation. A preparation is that portion of fires delivered immediately before and/or during an attack. It is intense fire designed to disrupt communications and to disorganize the enemy's defenses. Preparations are delivered in accordance with a time schedule. A preparation may include the fire of ground, naval, and air means.

Commander's Concept of Fire Support. This term replaces "General Plan of Fire Support." However, until such time as changes can be made to appropriate manuals, the definition of this term in any instructional matter will be followed by the superseded term in parentheses, e.g., "Commander's Concept of Fire Support (General Plan of Fire Support)."

Liaison Officer's Fire Plan. This term replaces "Close Support Fire Plan." Usage of this term is governed by the same provision as that for the preceding term, e.g., "Liaison Officer's Fire Plan (Close Support Fire Plan)."

Artillery Direct Support Plan. The direct support artillery battalion commander's plan of fire support is a consolidation of the Commander's Concept of Fire Support (general plan of fire support) and the Liaison Officer's Fire Plans (close support fire plans).

Supporting Fires. In offensive operations, supporting fires may be delivered prior to or at any time during the attack. In defensive operations, supporting fires must be planned to support all phases of the defensive action. Supporting fires may be pre-arranged both as to time and place (scheduled fires), or they may be prearranged as to location only and fired on request (on call fires). The terms "preparatory fires" and "protective fires" have been eliminated from instruction at The Infantry School. The term "supporting fires," as defined, has replaced the two former terms.

Sound Ranging Equipment Test

A test of the relative ability of the infantry *counterfire* sound ranging system and the artillery sound ranging system to locate 81mm mortars was recently conducted by TAS.

The artillery sound ranging system employs several microphones, regularly spaced along a straight base. For these tests two such bases were employed: a one-second (microphones spaced a distance equal to the distance sound travels in one second), five-microphone base and a two-second, five-microphone base.

The infantry sound ranging system employs a series of three-microphone arrays. In these tests three of these arrays were used. The distance between arrays was approximately 750 meters.

Average accuracies in locating the mortar obtained during these tests were as follows:

	Range Error	Direction Error
Infantry System	44 meters	9 meters
Artillery System	10 meters	1 meter

The mortar was fired at distances of from 2,000 to 3,000 meters from the sound bases.

Since these tests were conducted under favorable weather and terrain conditions, no final conclusions can be drawn at this time on the relative effectiveness of the two systems in locating mortars. However, the test did establish that locations of the 81mm mortar at ranges up to 3,000 meters can be made by both systems with sufficient accuracy to warrant attack by unobserved fire.

THE MONTH'S FILMS

Each month in this space Captain Jack F. McAhon, who is in charge of motion picture distribution for the Pictorial Branch, Department of Defense PID, will report on the new films available to the services.

With the return of the off-post salute, officers and men will want to reacquaint themselves with the whys and wherefores of this time-honored tradition. This subject, usually difficult to present through lectures, is well handled in **Military Courtesy, TF 21-1965** (approximately 20 minutes). A tough master sergeant uses an interesting story to instill in two recruits the meaning and importance of the salute.

The **Infantry Weapons and Their Effects** series is highly recommended either as an indoctrination for new troops or as a review. These films are distributed as Film Bulletins (FBs) and run between 8 and 10 minutes. They outline the nomenclature, ammunition, range, or ranges, and tactical employment of each weapon.

One of the best films I have seen on leadership is **Principles of Leadership, TF 21-1840** (43 minutes). FM 22-10 comes to life on the screen as "Captain Jackson" explains what leadership is and what it embraces. While "Captain Jackson" tells his story, the film flashes back to his induction and follows him through the various NCO ranks, OCS, and combat, to his present assignment as a company commander. This picture would be especially useful at an officers' or NCOs' call or in a leadership school.

Any information troops learn about their own and sister services is additional equipment for use in the accomplishment of their mission. **Armor Organization, Weapons and Tactics, TF 17-1903** (27 minutes), gives the soldier a brief picture of Armor. He gets a look at the various tanks, personnel carriers, and other vehicles organic to Armor, together with their basic armament and tactical employment.

A color sound film strip (SFS) **U. S. Anti-Personnel Mine M-14, SFS 5-118** (14 minutes), should be available in film libraries this month. It outlines the proper methods for arming, planting, and disarming the plastic, non-detectable M-14. The strip emphasizes safety factors that must be observed in handling the mine, as well as methods to determine damages incurred in shipment.

Infantry Operations in Mountains, MF 7-8278 (38 minutes), explains why certain decisions are made in mountainous areas and why certain weapons can or cannot be used. It shows the effects of this type of terrain on time estimates, transportation, and weather; and it gives many other basic facts about mountain operations.

Swimming for Survival, MN 9198 (17 minutes), a Navy film, shows how to stay alive in water. Various swimming strokes, expedites, and methods of breathing are explained and demonstrated. It can be obtained through the information officer at Naval District Headquarters.

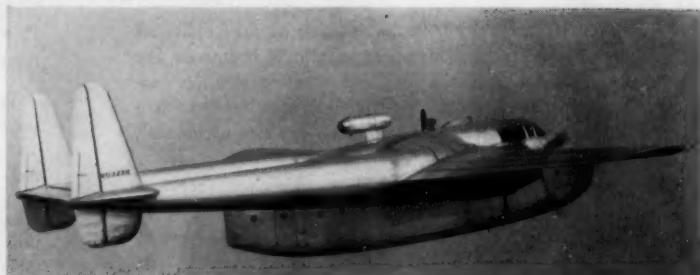
IRONS IN THE FIRE

Airborne Radar



Sperry Gyroscope Company has produced a compact airborne radar that promises to increase safety in troop-carrying and cargo planes. The drawing above shows what the radar's "turtle-shell" antenna would pick up over the area around Cape Cod, Mass. The five-inch radar screen can be used for search and surveillance, accurate navigation over uncharted airlanes, detection of distant storms, or anti-collision warning of mountains, tall structures, and other aircraft. The complete set weighs only 150 pounds. Its 18-inch antenna is gyro-stabilized for steadiness against the pitch and roll of the plane. The radar set is effective at altitudes up to 50,000 feet, and it has unprecedented power for its size and weight. It has potential military value for Army light aircraft, and many tactical uses for the set suggest themselves. The radar set operates in the 10,000-megacycle band of the spectrum with sharpness and clarity.

Jet Assist for C-82



This C-82 Flying Boxcar is equipped with the new J-44 jet power reserve package. A development of Fairchild Aircraft, the jet provides an extra 1,000 pounds of thrust. It is expected to reduce required take-off distances and permit increases of as much as two to three tons in maximum take-off weights. The added power plant may also provide an additional safety factor in case of engine failure on take-off. The J-44 package is attached to the top of the fuselage by means of a fixed pylon. The air intake can be closed by remote control when the jet is not in use, to reduce drag. The assembly can also be installed so that it may be retracted within the airplane. The J-44 operates on regular aviation gasoline, and it requires no structural modification of the airplane. Seventy-two inches long and 22 inches in diameter, it is easily accessible for service, and it can be installed or removed in a matter of minutes.

Handy Presser

This new electric presser is a handy item to have around the barracks or BOQ, or in transit. The manufacturer claims that it will quickly remove wrinkles and renew the creases in trousers, sleeves, lapels, and collars. It weighs only eight ounces and can be used on AC or DC current. The manufacturer is Weylum, 5109 Hollywood Blvd., Los Angeles 27, Calif.



Amphibious Vehicle

This new amphibious vehicle, which has been developed by the Marmon-Herrington Company, Indianapolis, can negotiate swamps, soft mud, or sand, climb 65-per-cent grades, cruise in deep water or travel down a highway at 45 miles per hour. Its large aluminum hemispheroidal wheels have the effect of giving the vehicle greater traction the deeper it sinks into mud or sand. It is powered by a 110-horsepower Ford engine, but in deep water it is propelled and steered by hydrojet. Named the "Rhino," the vehicle can turn in its own length when in water. Its chief projected uses are in agricultural, logging, and petroleum operations, but it could have military use.



THE MONTH'S BOOKS

Air Power View

POWER AND POLICY: U. S. Foreign Policy and Military Power in the Hydrogen Age
By Thomas K. Finletter
Harcourt, Brace and Company, 1954
408 Pages; Index; \$5.00

Reviewed by
COL. H. D. KEHM

Mr. Finletter has written a book which merits the attention of all U. S. citizens and thoughtful study by politicians, statesmen, military men and economists.

The thesis of the book is that we should anticipate that by 1956 Russia will be in a position to launch a sneak atomic attack which can destroy our major cities and our industry and, if we are not properly prepared, our ability to strike back as well. The best chance of forestalling such an event is to build and position forces, particularly atomic-air, so that Russia will not make the attack because she will know that we can absorb it and retaliate with devastating force.

Mr. Finletter contends that we could achieve this and spend no more than we are now paying for a defense that does not provide the indicated protection. He states further that unless we change our present military policies, planning procedures, and way of thinking, we will not have them in the future and hence will invite our own destruction.

In the author's view, being properly prepared means establishing "indispensable" forces in the following priorities; first, the NATO Atomic-Air to carry out the atomic counterattack; second, air defense of North America and the NATO areas; and third, the U. S. contribution to NATO in army, sea and non-atomic air forces. He describes any forces beyond these as "dispensable" no matter how desirable they may appear.

In his view the greatest danger currently lies in what he terms "the Gray Areas," those nations which border (or nearly so) on Russia or Communist China. Here, because of our massive retaliation policy and because the interests of our strongest partners are often nearly in conflict, he fears we may blunder into atomic war.

The description of how U. S. force levels have been decided in recent years is particularly useful reading for military and governmental planners.

The writer's proposals as to what needs to be done to ensure the proper defense are peculiarly timely now that the policies of the new Administration are just becoming effective. He contends that the basic

defects in our military planning are, first, that the size of the defenses is governed too much by fiscal considerations and the international mood of the moment, and, second, that the division of funds is determined by compromise among the Chiefs of Staff rather than by objective decisions by impartial officials.

The reader will be surprised by the discussion of the relative influence of the Secretaries of the defense agencies and the chiefs of staff even under the New Look.

Mr. Finletter's analysis is not without vulnerabilities. It appears to give too little weight to the reasons behind the force level decisions of other specialists. It does not see even an important potential in the procedural and organizational changes recently made. It reflects some of the common tendency of air power advocates to consider that only airmen appreciate the potential of the air weapon. Finally, it leans to the thought that organizational and procedural changes will make the Secretaries exert greater direction and control where they have not done so in the past, even when they had the power to do it. The proposal that a permanent civilian Under Secretary in the Department of Defense might do much to accomplish this is peculiarly weak.

Guerrillas in the Philippines —and Elsewhere

WE REMAINED
By Col. R. W. Volckmann
W. W. Norton & Co., Inc., 1954
244 Pages; Index; Maps; Photographs; \$3.75

IRREGULARS, PARTISANS, GUERRILLAS
Edited by Irwin R. Blacker
Simon and Schuster, Inc., 1954
487 Pages; \$5.00

Reviewed by
JONATHAN CARMEN

On a recent Tuesday night I idly picked up Colonel Volckmann's *We Remained*, with the intention of killing a bit of time until Buick-Berle had departed from television and I could go about my customary chores of bedding down the brood. I must confess I grossly neglected my parental duty that night and didn't put down *We Remained* until the small hours of morning. If that be high praise, the publisher and Colonel Volckmann are welcome to it. The next morning some small doubts nagged my mind. Not only had I failed in my parental obligations, but I couldn't escape feeling that *We Remained* wasn't that good a book. But what had held me to it for three hours? I finally concluded that it could only have been the promise

of more exciting things to come. But they never did. This is a difficult conclusion to come to and it certainly was not intended by the author whose prose style is completely unpretentious and almost pedestrian. That is what makes the grip of the book uncanny indeed. There was always the feeling that on the next page or in the next chapter Colonel Volckmann would cut loose and describe some of the truly difficult feats of his guerrilla units. They made the Japanese look like monkeys more than once, but beyond the bare outlines of plans and results Colonel Volckmann is mute.

For example, there was the rescue of Mrs. Osmeña, the wife of the President of the Commonwealth of the Philippines, and her family of six. He tells us that constabulary on duty at checkpoints on the Baguio-Manila road were induced to record falsely the passing of the Osmeña party. But other details of what must have been a quite exciting incident aren't described, even though it was so well planned, rehearsed, and executed that the Japanese didn't know what had happened until the Osmeñas were gone. And so too with other incidents that the author mentions but doesn't develop.

But *We Remained* isn't a failure. Far from it. First it is an excellent unit history of the outfits that made up the "United States Armed Forces, Northern Luzon," and secondly it is a fairly comprehensive case history of how to organize guerrilla units behind the lines of an occupation army.

Colonel Volckmann's final chapter has to be mentioned separately. In it he discussed the prospects of guerrilla activities in an atomic war. He believes that the greater dispersion of forces that will be practiced will create fluid battle situations and isolated actions that will be "a setting ideal for guerrilla warfare."

In contrast to *We Remained* is *Irregulars, Partisans and Guerrillas*, an anthology of guerrilla warfare, edited by Irwin R. Blacker. What Mr. Blacker has done is to assemble accounts of guerrillas that are bloody and meaty with the details Colonel Volckmann shunned. There are guerrillas here who fought against Napoleon in Russia and against Morgan in Panama; with Robert Rogers' Rangers in the French and Indian Wars and with Mosby at Harper's Ferry; with Smuts in South Africa and with Lawrence in Arabia; with the French Maquis and the Polish Underground; with Mihailovic's Chetniks and Tito's Croats; with Popski's Private Army in North Africa and Wingate's Chindits

in Burma.

This is only a partial listing but these stories have what Colonel Volckmann's story doesn't have: details of what happened and how. The stories Mr. Blacker selected are of uneven quality. But there are many other terribly dramatic and revealing stories in this book.

I rather think that this anthology will be most reading for future students of guerrilla warfare tactics and expect to find it on the supplementary reading lists of the service schools. And therefore there is one blemish that should be mentioned. Mr. Blacker's comments that introduce each of the stories are too often fragmentary and sometimes misleading.

It should be added that Mr. Blacker acknowledges his indebtedness to the late Colonel Joseph I. Greene, long the editor of this magazine, thus attesting again the widespread influence Joe Greene had on the military literature of the past 15 years.

Freeman's Last Volume

GEORGE WASHINGTON: A BIOGRAPHY
Volume Six, Patriot and President
By Douglas Southall Freeman
Charles Scribner's Sons, 1954
502 Pages; Illustrated; Index; \$7.50

Reviewed by
LYNN MONTROSS

Toward the end of a June day in 1953, Douglas Southall Freeman wrote three sentences with his usual care for the niceties of expression. They were destined to be not only the last paragraph of the sixth volume of his unfinished biography of George Washington, but also the last words of a career devoted to American history. For Dr. Freeman died suddenly that evening at the age of sixty-seven, and historical scholarship in this country has been the poorer ever since.

So rich was his contribution that this is one of the rare instances when a book reviewer finds the author of a biography hardly secondary in interest to his subject. The project itself was famous. Here, for once, historical scholarship rode in a carriage instead of plodding along on foot. Financial support had been provided generously by the Guggenheim Foundation and the Carnegie Corporation of New York. Dr. Freeman, like a general in the field, commanded his own trained staff of loyal, devoted assistants—researchers, editors and librarians as well as competent clerical helpers.

Surely, it seemed, the product must be a completely satisfactory life of a subject who had eluded other biographers just as he balked portrait painters in his own day. Yet there is something lacking in Freeman's *Washington*, too. As a well documented reference work, the six volumes merit superlatives. But they can only be disappointing on the whole to the reader expecting that nobility of phrase and conception which so often distinguished R. E. Lee and Lee's *Lieutenants*.

Freeman's *Washington* is pedestrian in

comparison. It is factual historical writing at its best. But it is not Freeman at his best.

Volume Five, it may be recalled, dealt with Washington the general during the last years of the Revolution. The present volume sees him through a period of post-war retirement at Mount Vernon, followed by a first term as president. Thus the seventh and final volume of the unfinished work would have covered Washington's second term and last years, and the author planned to end with his own summaries and conclusions.

Since this could not be, Volume Six includes an introduction by Dumas Malone and a prefatory note by Dr. Freeman's historical associate, Mary Wells Ashworth. Here the reader will find a detailed description of the methods and working habits of the Richmond newspaper editor who turned historian.

Few facts have been overlooked in Dr. Freeman's meticulously documented pages, bristling with footnotes in three digits. The first chapter of Volume Six presents Washington as the returned warrior of 1784, savoring contentment as a country gentleman at Mount Vernon. This was the life he loved best, but it was soon to be interrupted again when his countrymen made him their first chief executive.

Even during this four-year interlude as private citizen, his fame attracted a horde of visitors who almost literally ate him out of house and home. While providing food and wine for these guests, Washington became so pinched for cash in the summer of 1788 that he was three months late in paying the rector his pew rent of £5. He was further humiliated by having to put off the sheriff of Fairfax County when that official called to collect money due on Mount Vernon.

Added to the embarrassment of debts were Washington's attacks of "ague and fever," followed by rheumatic pains. He dosed himself so prodigiously with red bark on one occasion that he cured the fever but incurred a violent skin eruption and could not shave for a fortnight.

It was a tired and aging man of fifty-seven, in short, who responded none too eagerly to the call of his country by taking the oath as President at New York in 1789. Always a realist, he was not sanguine about the Constitution he had helped to frame. But enthusiasm was not the great man's outstanding trait, and nobody did more to make the Constitution "work" in practice.

The phrase "Washington slept here" loses a good deal of its hackneyed humor after the reader has jogged along with the father of his country on horseback or in coaches from New Hampshire to Georgia and westward to the forests of present-day Ohio. He wanted to see for himself the state of America, and in the boneshaking process he must have rested his weary head in enough inns to fill the pages of a thick guidebook.

During his travels he revisited, without much show of emotion, nearly all of his

former battlefields. At Valley Forge, ten years after the crisis of the Revolution, he was chiefly interested in a field of buckwheat which reminded him of his experiments at Mount Vernon. And at Trenton, the scene of his most brilliant generalship, he left not a single reminiscent word in a diary entry recording that he went fishing for perch in the Delaware.

Washington's problems, vexations and triumphs as President are covered in detail. His social life while in office is also given the full treatment in Volume Six. For that matter, the biography as a whole is muscular with fact, and it could seldom be accused of lacking objectivity—a charge which has been leveled with some cause at Freeman's books about the Confederacy. On the other hand, it is hard to believe that the Richmond editor's heart was in his latest work as it was when he wrote about Lee and his lieutenants.

Only a carping reviewer, however, would fail to recognize that the achievements of Freeman's busy lifetime rose above such criticisms. Until the last few years, let it be remembered, military history was frequently considered a poor relation of what the professors were pleased to call "social history." The two historians who have done most to erase such distinctions are Samuel Eliot Morison and the late Douglas Southall Freeman, both of them worthy successors to a tradition of American historical writing which once gloried in a Parkman, a Motley and a Prescott.

After Math

THE COMPLEAT STRATEGYST
By J. D. Williams
McGraw-Hill Book Co., Inc., 1954
234 Pages; Illustrated; Index; \$4.75

Reviewed by
COL. WM. C. FOOTE

The title page and the front blurb cover state this book is "a primer on the theory of games of strategy." If so, it's quite some primer to this reviewer. Another in the series of RAND Corporation research studies, Mr. Williams' book develops the "theory of game strategy" step by step, fortunately for the average or below-average reader.

According to the Preface, knowledge of the Game Theory is mostly held by the tight (close-brained, not inebriated) professional group which has been developing the subject, and by another and larger group that has been exposed to it. Now this knowledge is being offered (the gloomy minded would say inflicted) to those lay persons who can obtain this book and peruse it. Perusal alone won't bring results, except for the humor and the fun of it. To get the meat requires careful attention, analytical thinking, and a pencil and paper; and, lest we forget it, a vivid and active recollection of "higher" arithmetic to include negative numbers (personal check book balances excepted). In spots you'll find recourse to some of your algebra a help, particularly probabilities,

determinants, and even permutations and combinations.

The author and Charles Satterfield, the illustrator, have collaborated well to blend sly phrases and clever cartoon illustrations. Probably Chapter I presents more proof of this than do the other chapters, but there are other samples of both scattered through this book to ease the mental efforts of the reader.

Naturally this "primer" ("primer" to the artillerist) introduces us to a new and brief vocabulary: "oddment," "dominance," "saddle-points," "game matrix," "maxmin" and "minmax" and lastly, "value of the game." All these aren't strangers to us, but they are newly defined as applied to the Game Theory. Be it noted that "strategy" here differs from the common connotation of that term, "A strategy is a plan so complete that it cannot be upset by enemy action or by Nature," but "it must be utterly complete and it may be utterly bad."

We find that the Game Theory is credited with the successful "accounting for the distribution of deaths in Prussian Army Corps due to kicks from horses," and "with the assertion that the method is just as applicable to the distribution of horses kicked to death by Prussians."

This is not an easy book to go through, since to work out all the problems in it and to check the illustrative problems require concentration and perseverance, two qualities equally applicable to courtship and to war.

Advocate or Historian?

**U. S. ARMY IN WORLD WAR II:
THE ORGANIZATION AND ROLE OF THE
ARMY SERVICE FORCES**
By John D. Millett, Ph.D., LL.D.
Office of the Chief of Military History,
Department of the Army, 1954
494 Pages; Index; \$4.25

Reviewed by

COL. GEORGE J. B. FISHER

The author, now president of Miami University, served on the staff of Lt. Gen. Brehon B. Somervell and during the war was official historian of the Army Service Forces. In discussing the controversies that added color to the history of ASF he approaches them, as is probably inevitable, from the viewpoint of the inner office of the grand architect of the Pentagon building. It is obvious from this account why so many controversies should have arisen during the stormy existence of ASF. Many of them started as reactions to actions initiated by General Somervell; and the initial action is not always easy to justify, even by so skillful a writer as Dr. Millett.

This volume brings out the essential fact that it is impossible to understand ASF without understanding the personality of its commander. General Somervell gave a good deal of thought to the idea of *command*. He was selected to head one of the three operating—or "command"—

groups which the War Department established in 1942, yet the congeries represented by ASF was the least receptive to the kind of command procedure that Somervell typified. The only real command, in the full military meaning of that word, within this triangular setup was the Army Air Forces. It was given to neither AGF nor ASF to command in the course of military operations. Within ASF, actually the command role was administrative rather than military. Had General Somervell been more considerate of this distinction, had he exercised his command functions more in the pattern of General Marshall, there would have been better response to his leadership and less of contention to cloud the solid accomplishments of ASF.

A possible fault in this volume lies in the fact that the commanding general's views are necessarily relevant to an understanding of the Army Service Forces. Yet the author serves as an advocate of those views to an extent that weakens his role as a historian.

The principal mission of General Somervell, as head of the Army Service Forces, was to relieve the Chief of Staff of the burden of directly supervising the business affairs and much of the administrative routine of the War Department. This Somervell accomplished to a degree that was undoubtedly satisfactory to General Marshall. Had he invariably hewed closer to this objective, he could have served his chief even better.

One basic issue of continuing importance which the author presents well from the service viewpoint, is that of the proper relationship between military and civilian authority in the mobilization of industry for war. In the histories published by the civilian wartime agencies the position is steadily taken that the uniformed services were driving toward control of the industrial economy of the nation. It is time that the position of the Army in this matter should be clearly stated, and this Professor Millett has done. He states that Somervell's aim was not to encroach upon civilian prerogatives, but rather to prevent the War Production Board from assuming direct control of military procurement. This aim reflected the studied and long-standing policy of the War Department, rather than General Somervell's own concept, yet the vigor with which Somervell maintained it may have contributed to the fear by Mr. Donald Nelson and his associates that the military had dark designs upon the whole industrial structure.

In the Industrial Mobilization Plan there was a provision that, in case war broke before needed civilian agencies were set up, the Army-Navy Munitions Board would serve temporarily in the capacity of a production control authority; this, however, was merely a contingent and at best an interim measure which never had to be put into effect. Neither the Army nor the Navy had any desire to become involved in the wartime controls of industry,

while both were strongly opposed to surrendering their responsibilities in procuring what was needed in order to meet military and naval objectives. In a democracy at war the matter of proper relationships on the procurement front is of transcendent importance. In presenting the Army's position during World War II, a position supported by the Director of War Mobilization (Hon. James F. Byrnes), this volume makes an important contribution to the historical record.

How Not to do It

THE REASON WHY
By Cecil Woodham-Smith
McGraw-Hill Book Company, 1954
287 Pages; Illustrated; \$4.00

Reviewed by
LT. COL. DONOVAN YEUELL, JR.

Just one hundred years ago the charge of the Light Brigade took place near the resort seaport of Balaclava. This famous cavalry action into the Valley of Death has been branded as one of the greatest military blunders. Blame for ordering the charge was never clearly fixed, and for generations a violent controversy raged among the principals.

The book offers valuable thought-stimulation for officers who aspire to high command and staff positions, because the specific errors of leadership, tactics, administration, organization, and training are so glaring that they should stand in one's memory as almost perfect examples of how not to do it.

The key British generals at Balaclava sadly lacked the quality to make and seize opportunities for victory. They were set-piece, garrison generals. Balaclava hinged on Lord Raglan, the army commander; Lord Lucan, the cavalry division commander; and Lord Cardigan, the Light Cavalry Brigade commander. Their lives make fascinating reading and paint a vivid picture of Britain a century or so ago.

The army commander, Lord Raglan, was sixty-five when he entered the Black Sea and hadn't seen action since Waterloo. (He confused his staff by referring to the French allies as "the enemy.") Raglan lacked both ability and vigor, and by favoring his friend, Cardigan, brought about circumstances wherein the Light Brigade commander could and did bypass his long-time foe and superior, Lord Lucan of the cavalry division. The Crimea was ideal cavalry country, and the proper use of horse soldiers was critical to the campaign. Yet, partly because of the unhealthy relationship among Raglan, Lucan, and Cardigan, and partly as a result of their shortcomings and the flaws in the system, the cream of British cavalry never played its part. In reconnaissance, pursuit, and foraging, the cavalry was poorly handled. Often it was withheld when the time was ripe to commit it; at other times it was thrown frontally against infantry and artillery when it should have flanked.

The first half of the book dwells on the

A Selected Check List of the Month's Books

This run-down of some of the books received for review during the month preceding our deadline is to give our readers who like to follow current literature a current check list of the most important, useful and potentially popular books. Full reviews of some of these books will appear in this or subsequent issues. Any of these titles may be purchased through the Combat Forces Book Service. See page 56 for order coupon and a complete listing of Selected Books for Military Readers.

ABRAHAM LINCOLN: The Prairie Years and The War Years. By Carl Sandburg. Harcourt, Brace & Co., 1954. 762 Pages; Illustrated; Index; \$7.50. Carl Sandburg has condensed his six-volume study of Lincoln into a one-volume life which will undoubtedly become the standard in its field.

THE ADMIRAL AND THE EMPRESS. By Lincoln Lorenz. Bookman Associates, 1954. 194 Pages; Index; \$3.50. John Paul Jones fights, and beats, the Russian conspiracy against him while he was in the service of Catherine the Great. The parallel of Russia in the early 1800s and Russia today is brought out rather forcefully.

AMBASSADORS IN ARMS: The Story of Hawaii's 100th Battalion. By Thomas D. Murphy. University of Hawaii Press, 1954. 315 Pages; Illustrated; \$6.00. The story of one of World War II's finest fighting outfits, written in a sympathetic vein.

AMERICA'S RESOURCES OF SPECIALIZED TALENT: The Report of the Commission on Human Resources and Advanced Training. Prepared by Dael Wolfe, Director. Harper & Brothers, 1942. 332 Pages; Index; \$4.00. "An impressive body of information" of the highest importance to military personnel experts and future commanders.

THE BUFFALO HUNTERS. By Mari Sandoz. Hastings House, 1954. 372 Pages; Illustrated; \$4.50. 1867 and the thundering herd written with color and historical accuracy by the author of *Old Jules*.

THE COMING OF THE REVOLUTION 1763-1775. By Lawrence Henry Gipson. Harper & Brothers, 1954. 287 Pages; Illustrated; Index; \$5.00. A re-examination of the causes of the War for Independence.

THE CONCISE USAGE AND ABUSAGE: A Modern Guide to Good English. By Eric Partridge. Philosophical Library, Inc., 1954. 219 Pages; \$3.50. How not to make the common mistakes. The word "concise" in the title is well chosen.

EXPLAINING THE ATOM. By Selig Hecht. The Viking Press, Inc., 1954. 237 Pages; Illustrated; Index; \$3.75. Revised to include material on the H-bomb. One of the better explanations for laymen.

FIFTY YEARS IN CHINA: The Memoirs of John Leighton Stuart, Missionary and Ambassador. Random House, 1954. 346 Pages; Illustrated; Index; \$5.00. Our Ambassador in China at the time of the Communist victory tells of his long service in that country. The author does not minimize the Communist threat and is against compromise. Preface by General George C. Marshall.

GEORGE WASHINGTON, Volume VI, "Patriot and President." By Douglas Southall Freeman. Charles Scribner's Sons, 1954.

529 Pages; Illustrated; Index; \$7.50. The latest in the important series which Dr. Freeman could not finish before his death.

THE GUN DIGEST, 9th Edition, 1955. Edited by John T. Amber. The Gun Digest Company. 224 Pages; Illustrated; \$2.00. The latest edition of what is now a standard annual work. Any gun bug worthy of the name will have a copy.

INDONESIA: LAND OF CHALLENGE. By Marguerite Harmon Bro. Harper & Brothers, 1954. 263 Pages; Illustrated; Index; \$4.00. The wife of a United States Embassy attaché records her impressions of 18½ months in Indonesia.

IRREGULARS, PARTISANS, GUERRILLAS. Edited by Irwin R. Blacker. Simon and Schuster, Inc., 1954. 487 Pages; \$5.00. A stirring collection of exciting short stories and fragments illustrating actual incidents.

JAPAN'S DECISION TO SURRENDER. By Robert J. C. Butow. Stanford University Press, 1954. 259 Pages; Index; \$4.00. Dr. Butow, on the basis of hitherto untapped information, decides that neither the atomic bomb nor Russia's entry into the war was the decisive element that led to VJ-day.

THE LIFE OF ABRAHAM LINCOLN. By Stefan Lorant. McGraw-Hill Book Co., Inc., 1954. 256 Pages; Illustrated; \$3.50. A very short book for the subject but well done within the limits embodied by its length. The illustrations are profuse and pertinent.

THE MAGNIFICENT MITSCHER. By Theodore Taylor. W. W. Norton & Co., Inc., 1954. 364 Pages; Illustrated; Index; \$5.00. A biography of the air admiral whose carriers helped to blast the Japanese from the Pacific.

THE MARSHALLS: INCREASING THE TEMPO. By Lt. Col. Robert D. Heinl, Jr. and Lt. Col. John A. Crown. Historical Branch, G3 Division, U.S. Marine Corps, 1954. 188 Pages; Illustrated; Index; \$3.25. Another in the well-illustrated series of monographs covering Marine actions in World War II.

A MILITARY HISTORY OF THE WESTERN WORLD: From the Earliest Times to the Battle of Lepanto. By Major-General J. F. C. Fuller. Funk and Wagnalls, 1954. 602 Pages; Maps; Index; \$6.00. This book examines the influence of war on civilizations in the western world from Megiddo in 1479 B.C. to Lepanto in 1571 A.D.

THE NEW WARFARE. By Brigadier C. N. Barclay. Philosophical Library, Inc., 1954. 65 Pages; \$2.75. The editor of the *Army Quarterly*, the famous British magazine, develops the idea that existing condi-

tions are "the new warfare" and will last for many years.

THE PASSPORT. By Saul Steinberg. Harper & Brothers, 1954. 224 Pages; \$5.00. Another Steinberg collection; Steinberg fans will appreciate it and others, as usual, will be thoroughly puzzled.

POWER AND POLICY: U. S. Foreign Policy and Military Power in the Hydrogen Age. By Thomas K. Finletter. Harcourt, Brace and Company, 1954. 402 Pages; \$4.50. A former Secretary of the Air Force and State Department official reappraises America's military and foreign policy as integrated and inseparable parts of the same problem.

THE PRACTICE OF MANAGEMENT. By Peter F. Drucker. Harper & Brothers, 1954. 404 Pages; Index; \$5.00. The author of *Concept of the Corporation* and *The New Society* surveys the field of business management—a subject which has become of increasing interest to the Army.

THE RENO COURT OF INQUIRY. By Col. Wm. A. Graham. The Stackpole Company, 1954. 305 Pages; Illustrated; Index; \$5.00. A condensed version of the substance of the evidence given before the Military Committee of the House of Representatives in 1879. A vital record for those interested in the Custer legend.

REUNION. By Merle Miller. The Viking Press, 1954. 345 Pages; \$3.95. Fiction. Eight men who shared a desperate hour on the battlefield have a reunion complete with a killer and an intended victim.

SPIES FOR THE BLUE AND GRAY. By Harnett T. Kane. Hanover House, 1954. 311 Pages; Index; \$3.50. A famous novelist lends his touch to the "cloak and dagger" portion of a war that made spying and penetration into the enemy's country less difficult than normal.

THE STORY OF THE DECLARATION OF INDEPENDENCE. Text by Dumas Malone, pictures by Hirst Milhollen and Milton Kaplan. Oxford University Press, 1954. 282 Pages; Index; \$10.00. A beautifully illustrated volume along with an inspired text that should help any American to appreciate one of the basic documents of his government's existence.

THE UNTOLD STORY OF DOUGLAS MacARTHUR. By Frazier Hunt. Devin-Adair Company, 1954. 533 Pages; Maps; \$5.00. A sympathetic biography by a long-time friend and disciple and noted radio commentator.

THE VIET-MINH REGIME: Government and Administration in the Democratic Republic of Vietnam. By Bernard B. Fall. Institute of Pacific Relations, 1954. 146 Pages; Maps and Charts; \$1.75. Solid, scholarly and dull; chock-full of data for those who need it, but hardly the volume for a pleasant evening's reading.

lives of Lucan and Cardigan. The second half is devoted to the campaign and its aftermath. The campaign, begun as a lark, is a tale of poor supply, cholera and death, stupid command decisions, frightful staff work, disregard for the welfare of troops. Indeed, there can hardly be a military fundamental that was not repeatedly violated.

The account of the battle of Balaclava is the highlight of the book, painting such sights as the handsome, stupid, 57-year-old Lord Cardigan coolly leading his decimated Light Cavalry Brigade in full-dress, parade-ground formation, down a mile-wide valley two and a half miles long, the sides and end of which were held by greatly superior forces of Russian artillery and infantry. Under withering fire the whole way, the cavalry had the mission of charging with saber and lance, the strong artillery battery at the far end of the Valley of Death. To a soldier, Mrs. Woodham-Smith's description of the battle is quite a bit more useful than Tennyson's poem. While exciting and heartbreaking, the book is also informative.

Hardly a complete account of the Crimean campaign, *The Reason Why* strikes at the root of the evils that destroyed a British army that should have won. The maps could be better. Military history is not served strictly because military operations are not treated comprehensively enough. Still, it is a work generally well written and easy to read, and more useful to a soldier than its blurbs would suggest.

Brief and Positive

GUIDEPOSTS TO THE FUTURE:
A New American Foreign Policy
By General William H. Wilbur
Henry Regnery Company, 1954
176 Pages; Index; \$2.50

Reviewed by

MAJ. GEN. H. W. BLAKELEY

When the Allied forces landed in North Africa in 1942, General Wilbur, then a colonel, was one of the first winners of the Medal of Honor. In the more intellectual fields of international affairs, he is almost equally distinguished with an extensive record of study and personal observation in Russia, the Balkans, Japan, Korea, Western Europe and Central America. His book is, of course, not primarily military, but it is of particular value to military men because it presents with brevity and clarity a summary of our foreign policy during the post-World War II period, his concept of the reaction of other nations to our policies, and an outline of what he believes our foreign policy should be.

The combination of brevity (which precludes consideration of many angles, ifs, and buts) and of positive opinion ("It is crystal-clear that our post-war foreign policy has been a dismal failure") results in a controversial book, but one that is well-reasoned and easy to read.

"The position in which we find ourselves," says General Wilbur, "is a direct result of the deliberate, conscious acts of our government during the past eight

years." He cites our actions in regard to China, Poland, and the Arab world in support of this contention. On the other hand, he gives full credit to our government for its successes in Greece and Turkey, and in the origination and implementation of the Berlin Airlift and the Marshall Plan.

He also discusses the Iranian oil problem and has a particularly interesting chapter on the evaluation of our potential allies. In the case of England he believes that strong conflicting forces within the country have seriously weakened it, and that we have erred in providing "funds to finance socialist adventures." France, he thinks, cannot be counted on as a primary source for effective action for world peace, but Germany has a great potential in the fight against communism either in the cold war or in another world war if that cannot be avoided. Japan, he believes, can be counted on as an ally.

In regard to Russia, he is in complete agreement with the statement of Secretary of State Dulles: "Power is the key to success in dealing with the Soviet leadership. . . . The Soviet communist leaders themselves possess and exercise great power; they recognize and respect power in others; but they have only contempt for pleading that stems from weakness or fear."

"Mystify, mislead and surprise"

THEY CALLED HIM STONEWALL:
A Life of Lieutenant General T. J.
Jackson, C.S.A.
By Burke Davis
Rinehart & Company, Inc., 1954
470 Pages; Illustrated; Index; \$5.00

Reviewed by
BRIG. GEN. DONALD ARMSTRONG

American soldiers today generally have too little acquaintance with military history. Nearly all, however, recall Stonewall Jackson's prescription for victory: "always mystify, mislead and surprise the enemy if possible." How he accomplished this is less well known. Nor are we today sufficiently familiar with the traits of character, the mind and the methods that made Thomas J. Jackson, C.S.A., the Southern leader most feared in the north. If any general in our military past can serve as a useful model to this generation, it is certainly Stonewall Jackson. Mr. Burke Davis has written the kind of biography of the renowned Confederate leader which will appeal to the layman as well as aid the professional soldier to understand how a ragged and starving army can be transformed into an invincible fighting force.

The great value of this biography is the revelation of the mind and character and fighting methods of its protagonist. It does not pretend to be the profound professional study of tactics and strategy which Henderson gave us over a half century ago (1898). But Henderson made mistakes, some of considerable moment, and he encircled Jackson's brow with a tight-fitting halo.

It is comforting to the ordinary soldier to discover that even Stonewall Jackson erred. He learned about war the hard way. In telling us about the errors of Jackson's acts and the shortcomings of his character, Mr. Davis by no means engages in a muckraking spree, but he does succeed in showing us a human being and not a bronze statue. The anecdotes and characterizations quoted from contemporary letters, diaries and memoirs do not deflate Jackson's reputation. They give fascinating glimpses of Jackson's eccentricities and idiosyncrasies which even led some who knew him to question his sanity.

The author notes the problems arising from his excessive zeal for secrecy that left his immediate subordinates in ignorance of his plans and purposes. We are astonished by the constant friction with many of his top officers. But in spite of a few military errors and failures, too often neglected by earlier biographers, we observe, with pride in the achievements of this American soldier, his contributions to the military art in tactics, strategy and even logistics.

Two aspects of Jackson's practice of the art of war are particularly important today. How did he so frequently succeed in mystifying and surprising the enemy? Mr. Davis makes it perfectly clear: because of the incredible mobility of his little army which in the Valley campaign did not exceed 17,000 men. What gave his army marching ability was not only discipline, training and high morale. It was above all his ability to march light, for, as his lieutenant, Dick Ewell, put it: "The road to glory cannot be followed with much baggage."

We may profitably consider Mr. Davis's book a case history in military leadership. Jackson's will power and robustness in the face of obstacles and disaster were worth thousands of men in action. The friction and shock of war had no terror for him. His boldness and decisive action at high speed snatched victory from defeat. His driving power won battles. Even when he violated some of the basic principles of war, his daring and coolness misled the enemy and gave him victory. His men believed in him and followed him. Mr. Burke Davis deserves the thanks of the American soldier today in so well explaining why.

Colorful and Controversial

STORMY BEN BUTLER
By Robert S. Holzman
The Macmillan Company, 1954
246 Pages; Notes; Index; \$5.00

Reviewed by
COL. ROBERT F. COCKLIN

Considering the millions of words that have been written about the Civil War and its participants, it is really remarkable that so little attention has been given to Benjamin F. Butler. Certainly, he was one of the most colorful and controversial charac-

ters of that era, and his varied careers as lawyer, politician, major general, and office holder brought him more publicity than almost any other figure of his day. It could very well be that the utter complexity of the man has overawed prospective biographers.

Picking Ben Butler as a subject opens wide vistas to the biographer. A dynamic and picturesque man, before the Civil War Butler was highly regarded as a most able and skillful lawyer with a penchant for making enemies and money. He was a political power in his own state of Massachusetts although in those years he was never successful in gaining public office.

Since he was active in the militia, Butler managed to maneuver himself a commission as a brigadier general at the outset of the rebellion. Not too long thereafter, President Lincoln found it politic to make him a major general, and he subsequently became the senior major general of the Union Army, to the frequent embarrassment of the Administration. His war years were fraught with controversy. He gained the distinction of causing Jefferson Davis, the President of the Confederacy, to issue orders to his army to hang him immediately upon capture as "an outlaw and common enemy of mankind." When Butler took military command of New Orleans, his stern efforts to bring the citizenry to heel earned him the sobriquet, "Butler the Beast," throughout the South. His tenure in New Orleans finally caused so much embarrassment to the Administration, particularly with foreign countries, that he had to be replaced.

Throughout his whole career Butler's associates and relatives always seemed to be able to use his various positions for personal gain, although there never was any definite evidence that Butler took any money for himself from these suspect ventures. Nevertheless, they added more fuel to the fire of discussion that always surrounded him.

This brief sketch of some of the high points of Butler's career can only serve to point up the difficulties of capturing the man on paper. Professor Holzman has done an admirable job within limitations, and certainly his work makes a considerable contribution to the information on the period.

Iroquois and French

THE WHITE AND THE GOLD: The French Regime in Canada
By Thomas B. Costain
Doubleday & Company, 1954
482 Pages; Index; \$5.00

Reviewed by

COL. C. A. H. THOMSON

Put down the gaudy paper-covered whodunit. Switch off the TV. Give away the tickets to the show. Pick up Costain, and you will know no loss. Here is history so well and imaginatively presented, so skillfully told, that fictional movie or mystery cannot substitute for its rich tapestry.

54

Warfare? Here are expeditions, ambushes, sieges, sallies; strategy and tactics in the wars of the wilderness. Here is bravery and cowardice, the fantastic story of Adam Dollard who carved himself a place beside Leonidas of Thermopylae, the treachery of Etienne Brûlé. Here is psychological warfare, as the indomitable Charles Le Moyne, captured by the Iroquois and on his way to torture and death, talked in native tongue of the disasters that would befall the Long House if anything happened to him—talked so persuasively that the warriors stopped, held a council of war, and paddled him furiously back to the point of his capture and turned him over to friendly Indians. Here are weapons, weapons systems, weapons developments, as gunpowder overwhelms arrow and hatchet, and is adapted to forest warfare.

Politics? Here is the opening of Canada drawn against the intrigues, the ignorance, the competition for prestige and place, the administrative rigidities and stupidities, and the cupidity of the monarchs of England, France and Spain. The interplay between the ambitions and avarice of courts and courtiers in Europe, and the work of founding an Empire in the New World, is told in a hundred ways.

This first in a series of volumes, under Costain's editorship, designed to present Canadian history vividly and completely, brings the story up to the end of the 17th century, to the commencement of the wars with the English.

Australian Air History

AUSTRALIA IN THE WAR OF 1939-1945
Vol. III, AIR WAR AGAINST GERMANY
AND ITALY 1939-1943

By John Herrington
Australian War Memorial, Canberra, 1954
748 Pages; Maps; Illustrated; Index.

Reviewed by

MAJ. GEN. H. W. BLAKELEY

"The Australian contribution to air fighting against Germany and Italy," says the author of this volume of the series *Australia in the War of 1939-1945*, "consisted in the allocation of a large number of individuals for virtual incorporation within the Royal Air Force rather than the provision of self-sufficient units to work in cooperation with the major forces . . . The spreading, in both time and space, of a comparatively small force among so many major and minor combatant units presents a problem of narration which has, perhaps, never before been attempted on this scale."

This appraisal is certainly an understatement of the type usually considered to be British rather than Australian.

The military historian will find it a valuable reference work. There are occasional interesting comments on matters not strictly within the scope of the volume. For example: "There was some speculation both at the time and later as to the

reason why Field Marshal Rommel remained doggedly in siege of the Alamein line while the situation became increasingly adverse for him. . . . Rommel was in the position of the greedy monkey with its paw around fruit in a narrow-necked jar—he was unwilling to relinquish the prize so nearly within his possession. . . . He still hoped that, if he could only ease his critical supply difficulties, German pugnacity and his own sense of timing would yet throw the British off balance and give him final victory."

Patch and Float

EPICS OF SALVAGE
By David Masters
Little Brown & Company, 1954
234 Pages; \$3.50

Reviewed by

RICHARD GORDON McCLOSKEY

Admiral Cunningham's victory at Matapan on 24 March 1941 seemed to have effectively immobilized the Italian Navy. On the night of 18 December 1941, six Italians, riding on torpedoes, slipped into Alexandria harbor behind a British destroyer, evading the elaborate defenses. Early next morning the battleships *Valiant* and *Queen Elizabeth* exploded and sank. All the Italians were captured (two, in fact, had been imprisoned in the lower reaches of *Valiant* and sweated out their own explosion without squealing). The two battleships went down quietly and sat on the bottom. Axis aerial reconnaissance showed them apparently afloat. Intelligence swung into action to keep the sinkings secret, and the salvage crews toiled to refloat and repair. The Axis never knew the Mediterranean was wide open.

From yarns like this to the great hunt for 590 ingots of gold worth some ten million dollars, sunk off New Zealand, Mr. Masters hops around the world recounting choice stories of World War II salvage operations. A typical day's work in the port of London during the Blitz, the clearing of the Suez Canal, how a salvage job on one of the Mulberry units was one of the keys to D-day, how to raise a non-floating floating dock; these are some of the epics dealt with in this book.

Without getting too technical, Mr. Masters makes clear some of the techniques used in the ever complicated work of raising a ship or its cargo. The chapter on experimental diving and salvage work is particularly interesting. Altogether, this is a fascinating and exciting book.

Little-Known Confederate

GENERAL EDMUND KIRBY SMITH, C.S.A.
By Joseph Howard Parks
Louisiana State University Press, 1954
537 Pages; Illustrated; Maps; Index; \$6.00

Reviewed by

N. J. ANTHONY

Edmund Kirby Smith was the seventh-ranking full general of the Confederate Army, but the service of his peers, and of

some of his subordinates, was so much more colorful as to push him into relative obscurity. Indeed, so little has been the interest in General Smith that some writers aren't sure whether his surname was Smith, Kirby Smith, or Kirby-Smith. You'll find references in indexes under all three.

Smith grew up an "Army brat." Graduated from West Point in 1845, he served with distinction as an infantryman in the Mexican War. He was professor of mathematics at West Point, and as a captain joined the new 2d Cavalry, in company with A. S. Johnston, R. E. Lee, Thomas, Hardee, Hood, Van Dorn, Stoneman, and Fitzhugh Lee. A native of Florida, he followed his state into the Confederacy.

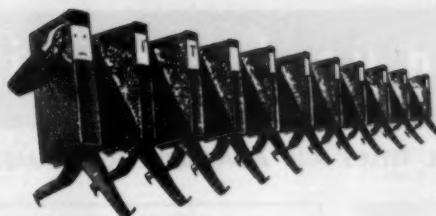
Smith got into action early. When he was wounded at First Bull Run he was a brigadier general. Made major general a few months later, he was given command of the Cumberland Gap area. During Bragg's invasion of Kentucky in 1862 he inflicted the severe defeat on the Union forces at Richmond, Kentucky. Promotion followed, and he took over the new Trans-Mississippi Department on 7 March 1863. He held that command until after the fall of the Confederacy. By February 1864 he was a full general, just under forty years of age.

With the Mississippi in Union hands and the Confederacy thus cut in half, Smith's theater was isolated. His job was to make it self-supporting. It was "no bed of roses," he lamented, but he succeeded in spite of local politicians. In this autonomous command Smith exercised more power than any other general officer in the war. He appointed his own civil and military officers. Several generals held rank only by his authority, without confirmation by Richmond. He instituted a regular system of blockade running, controlled the cotton market, and even had a treasury department of his own. Lack of manpower was his greatest problem. There were too few Confederate volunteers, and he had to depend on state troops who were none too ardent.

The greatest triumph of Smith's theater was the defeat of Banks's Red River amphibious campaign. Historians generally seem to belittle this campaign, and some ignore it, probably because the Union commander was Banks.

Smith's command held out after Lee's surrender. He signed capitulation papers on 2 June 1865, the last commander of Confederate ground forces to throw in the towel.

This is the first real biography of the general who commanded the largest theater of the war, and who held the same important command longer than any officer on either side. Like any mortal, Smith made mistakes, and the author makes no attempt to gloss over them. He has done a fine job, from Smith's own papers. The only fault—not chargeable to the author—is the inadequacy of the maps. Only two general maps are provided, and they are useless for the military reader.



Pass In Review

One of the handsomest books to come to our attention in recent months is the new *Soldiers of the American Army 1775-1954* (\$12.50) which will be published later this month. With text by Colonel Frederick P. Todd and drawings by Fritz Kredel, the historical background and development of the American soldier are recorded. Twenty-five of the beautiful full-page drawings are reproduced in full color and the uniforms are authentic in detail. This oversize (11 x 14) volume is bound in handsome buckram.

We've just seen an advance copy of Paul I. Wellman's new book, *Glory, God and Gold* (\$4.50) sub-titled "An Informal History of the Southwest." This is the second in Doubleday's Mainstream of America series, the first of which was Stewart Holbrook's *The Age of the Moguls*. Wellman's book is a splendid job of writing and his warm picture of the development of our turbulent Southwest is exciting and enjoyable American history.

If you are diplomatic enough to handle the situation, you might be interested in getting your wife a copy of *What Every Woman Should Know About Finance* (\$3.50). Seriously, this book should be very useful to service wives who are frequently called upon to run the family's affairs during the absence of their husbands. This book is an introduction to money management, savings, life insurance and investments. You needn't admit it publicly, but there is a lot in this book that husbands could use too.

Colonels Reinhardt and Kintner (who need no introduction to our readers) have revised and up-dated *Atomic Weapons in Land Combat* (\$3.95) in a second edition. Portions of this new edition have appeared as articles in this magazine during the past year and we are informed by the publisher that he believes the authors are "closely in step with the constructive suggestions of H. A. DeWeerd in the July issue of THE ARMY COMBAT FORCES JOURNAL." The first edition was selected by our editorial board as one of the 12 books to make a distinguished contribution to military literature in 1953. Whether this second edition will merit an oak leaf cluster in 1954 we can't say, but it remains the one book solely devoted to the impact of nuclear weapons on the ground battlefield.

Major General J. F. C. Fuller, the widely-known British military analyst, has a new work called *A Military History of the Western World* (\$6.00). We'll be running a full-fledged review in the next issue.

Really good war novels are a rarity. A recent addition that rates membership in this select circle is one about a Confederate soldier in our Civil War—*The Gray Captain* (\$3.50) by Jere Wheelwright. You don't have to be a Civil War addict to enjoy this fine book that really brings the smell of combat to your nostrils. Wheelwright paints a poignant picture of a Confederate soldier and the Confederacy itself as it was in a tragic and desperate time.

It's good to see that venerable sea-dog Marc Mitscher getting some recognition. Theodore Taylor has just written a heart-warming biography, *The Magnificent Mitscher* (\$4.50) that will help to preserve the tremendous contributions which Mitscher made to the Navy and to his country. "Pete" Mitscher was a sailor's sailor, wore the wings of a flyer and ended up commanding all of the naval aviation in the major invasions in the Pacific during World War II. Mitscher turned down Forrestal's offer to succeed Admiral King as CNO so that he could stay in the fighting war. Shortly after the war was over Mitscher died. Taylor has done a factual but sympathetic job on this biography.

The parade of books about General MacArthur marches on and on. General Blakeley reviewed the Willoughby and Chamberlain book in the last issue of the JOURNAL so for this month we'll just mention Frazier Hunt's *The Untold Story of Douglas MacArthur* (\$5.00). Frankly, I didn't find anything new or untold in the book and can only observe that a man with the brilliant military stature of Douglas MacArthur deserves better treatment than his admirers are giving him.

R.F.C.

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Army aviators can set world speed records, too. Warrant Officer Billy I. Wester (left) flew the Army's SC-39 Sikorsky helicopter (above) 156.005 miles an hour, a speed that exceeded the previous record of 146.735 miles per hour set by the Air Force in 1953. Wester, who is now on duty at the Sikorsky plant in Connecticut, served in Korea with a helicopter transportation company and wears the DFC with an oak leaf cluster.

THE MONTH'S PICTURES

Knothole in the iron (?) curtain and Sergeant First Class Bushan Boreta and a West German border guard take turns peeping.

